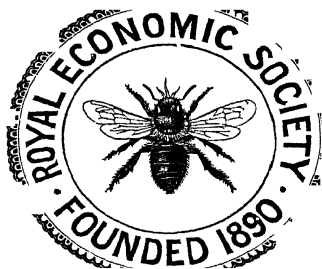


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THE ECONOMIC JOURNAL

MARCH, 1934

REMARKS UPON CERTAIN ASPECTS OF THE THEORY OF COSTS ¹

THE Theory of Costs is not one of those parts of Economic Analysis which can properly be said to have been unduly neglected. It has always occupied a more or less central position, and in recent years it has been the subject of a quite formidable body of new work. There is, indeed, no part of his subject about which the contemporary economist may legitimately feel more gratified, either as regards the quality of the work which has been done or as regards the temper in which it has been undertaken. Yet, in spite of this, the present state of affairs in this field is not altogether satisfactory. The various problems involved have been tackled by different sets of people, and the conclusions which have been reached in one part of the field have sometimes a rather disquieting appearance of incompatibility with conclusions which have been reached elsewhere. No doubt some of this apparent incompatibility is real. It is not to be expected that here—any more than elsewhere—economists should have reached finality. But some of it is probably illusory, and if, in discussing these matters, we were to state more decisively the problems which we are attempting to solve, and the assumptions on which we proceed, it seems likely that not only should we be able to clear up our outstanding real points of difference more quickly, but that, in the course of doing so, we should also discover that many of them depended essentially upon subtle differences of object and assumption, hitherto insufficiently stated. At any rate, it is in the belief that this would be so that these very tentative remarks are put forward.

The paper falls into four parts. In the first, I discuss the fundamental nature of costs, in the second, the relation between this conception and the Marshallian supply curve, in the third, the relation between costs and technical productivity. I conclude with some notes on cost variation through time.

¹ A lecture delivered before the Nationalökonomischen Gesellschaft, Vienna, April 7, 1933.

I start, then, with fundamentals. The conception of costs in modern economic theory is a conception of displaced alternatives: the cost of obtaining anything is what must be surrendered in order to get it. The process of valuation is essentially a process of choice, and costs are the negative aspect of this process. In the theory of exchange, therefore, costs reflect the value of the things surrendered. In the theory of production they reflect also the value of alternative uses of productive factors—that is, of products which do not come into existence because existing products are preferred.¹ Such is the conception of costs first systematically developed by Wieser² and made familiar in English-speaking areas by Green, Wicksteed, Davenport, Knight and Henderson.³ Following the usage of Pantaleoni⁴ and many others, we may refer to it for short as Wieser's Law.

It is probably true to say that, at the present day, the broad outlines of this conception are generally acceptable.⁵ The work

¹ This somewhat roundabout way of putting matters is deliberate. The money costs of production in any line of industry are a reflection of (a) the value of factors of production wholly specialised to that line of production (Wieser's "specific" factors) and (b) the value of transferable ("non-specific") divisible factors in other uses. It is in regard to these latter ingredients that Wieser's propositions have special relevance.

² *Ursprung und Hauptgesetze des Wirtschaftlichen Werthers*, pp 146-70, *Natural Value*, pp 171-214, *Theorie der Gesellschaftlichen Wirtschaft*, pp 61-61, 73-81, 142-46, also the juvenile work *Über das Verhältnis der Kosten zum Wert* ("Gesammelte Abhandlungen," pp 377-404).

³ See D. L. Green, "Opportunity Cost and Pain Cost," *Quarterly Journal of Economics*, 1894, pp 218-29, P. H. Wicksteed, *The Common-sense of Political Economy*, p 373, Davenport, *Value and Distribution*, pp 551-2, *The Economics of Enterprise*, pp 106-49, Knight, *Risk, Uncertainty and Profit*, p 92, "Fallacies in the Interpretation of Social Cost," *Quarterly Journal of Economics*, 1924, p 582, Henderson, *Supply and Demand*, p 162.

⁴ *Pure Economics*, p 184.

⁵ It is sometimes held that Wieser's Law is only true of a state of affairs in which the supplies of the factors of production are fixed. If these supplies are flexible, it is urged, then the disutility principle—the concept of real cost as real pains and sacrifices—comes into its own as an independent principle of explanation. (See Edgeworth, *Papers Relating to Political Economy*, vol. III, pp 56-64, Robertson, *Economic Fragments*, p 21, Viner, "The Theory of Comparative Costs" in *Weltwirtschaftliches Archiv*, Bd XXXVI, pp 411 ff.) The objection is plausible but it is not ultimately valid. Even when we are contemplating a situation in which the total supplies of the factors actually used in production are flexible, it is quite easy to show that Wieser's Law is still applicable. Variations in the total supply of labour in productive industry are accompanied by variations in the amount of time and energy which is available for other uses. Variations in the supply of land in production are accompanied by changes in the supply of land put to consumptive uses. Variations in the supply of capital are accompanied by variations in present consumption. All economic changes are capable of being exhibited as forms of exchange. And hence, as Wicksteed has shown, they can be exhibited further as the resultant

of Wieser's successors in this field—in particular the various writings of Professor Mayer—have brought home to us all its central importance as a unifying principle in the structure of modern analysis. And, in the sphere of applied economics, it becomes more and more clear that many of the most urgent problems of the day can be understood only in the light of the knowledge that it furnishes.¹

But there is one matter on which there is not yet full agreement. It relates to the precise *mode* in which the displaced alternatives are to be conceived. Wieser's usage is clear. They are to be conceived in terms of *values*—in terms of the values of the goods of the first order displaced. "The cost of production of one thing," said Wicksteed, "is the marginal value of another thing."² This is the sense in which it has usually been under-

of demand operating within a given technical environment. (See Wicksteed, *Common-sense of Political Economy*, especially Book I, chapter ix, also F. X. Weiss, "Die Moderne Tendenz in der Lehre vom Geldwert" *Zeitschrift für Volkswirtschaft, Sozialpolitik, und Verwaltung*, Bd. XIX, p. 518, and Wicksell, *Vorlesungen*, Bd. I, p. 159.) It has been said that this becomes impossible if account be taken of the so called other advantages and disadvantages of different occupations. Professor Viner, in the article cited above, has urged this particular objection. The difficulty, however, seems to be capable of a simple solution. If the other advantages and disadvantages are treated as joint products, the Wicksteed constructions can still be maintained.

¹ An example should make this quite plain. The introduction of improved methods of production sometimes has the effect of causing the price of the particular line of product concerned to fall below costs of production, and observation of this fact has often led to the belief that, therefore, the mechanism of free markets is incapable of dealing with the effects of scientific invention. But what does such a situation imply? Prices are below costs, the products fetch less than the amounts which have to be paid for the factors which produce them. But why is this? If the factors were completely specialised to the line of production in question—i.e. if they had no mobility—then, in a free system, their prices would fall automatically with the fall in the prices of their products. There could be no lasting disparity between prices and money costs. But the costs of transferable factors, according to Wieser's Law, are a reflection of their value in other possible uses. If, therefore, in one line of production, costs of production are higher than prices, this means, under our assumptions, that there are factors of production in that line which are more urgently demanded elsewhere—that the change in technique creates a new equilibrium of factors. As the transfer takes place under the pressure of the costs disparities, there will be movements of prices and costs tending to a restoration of profitability. It follows, therefore, that, if technical progress is accompanied by more extensive disequilibrium, the causes must be sought outside the area covered by our assumptions, the market is not free, the monetary mechanism is not functioning properly. There is nothing in the institutions of exchange as such which makes technical progress necessarily self-frustrating. This conclusion, which follows directly from Wieser's Law, is surely a conclusion of considerable practical importance.

² *Op cit.*, p. 382, cp also, Rosenstein-Rodan, "Grenznutzen" in *Handwörterbuch der Staatswissenschaften*, Bd. IV, pp. 1198 ff.

stood In recent years, however, it has been suggested in some quarters that they should be conceived in terms of technical quantities—in terms of the quantities (as distinct from the values) of the goods of the first order which might have been produced This is the procedure suggested by Professor Knight in his "Suggestion for Simplifying the Statement of the General Theory of Price" ¹ He invokes Adam Smith's parable of the beaver and the deer and concludes "In sum, the cost of beaver is deer and the cost of deer is beaver, and that is the only objective and scientific content of the cost notion" The same procedure is adopted by Dr Haberler in his recent article on the Theory of Comparative Cost ²

Now there can be no doubt that there is much that can be said for this suggestion The conception of costs as technical displacement has an objectivity and precision which is in itself an advantage It has none of that elusiveness which seems to inhere in concepts involving subjective valuation Moreover, it is true that in equilibrium the values of goods produced with common factors of production and variability of technical coefficients are necessarily in harmony with their displacement cost ratios It has been well known since the time of the classical economists that this was the case with the products of simple unskilled labour This is, of course, the moral of the parable of the beaver and the deer It is the achievement of Professor Knight and Dr Haberler to have shown that the same generalisation can be extended to cover the case of production with more than one factor of production If the amount of a commodity produced by a combination of factors of production is not the same as can be procured by devoting the same combination to the production of something else and procuring the first commodity by way of exchange, then clearly, if the conditions of production are technically variable, there will be evoked movements which tend to bring about this harmony

So far so good The argument seems overwhelmingly convincing But on closer inspection certain difficulties present themselves In the first place, it is important to recognise that there are wide areas where the conception of costs as technical displacements has clearly no application This is the case if the productive process involve fixed technical coefficients The imputation problem (and hence the cost problem) here can only

¹ *Journal of Political Economy*, Vol XXXVI, 1928, pp 353-70

² *Weltwirtschaftliches Archiv*, Bd XXXII, pp 353-70, especially the note on p 358

be solved in value terms. Costs of production in value terms can and will change with changes in demand ¹. But the idea of changes in technical displacements in this instance has no meaning. The same is true where we are considering commodities produced with different factors of production. If A and B are produced with n and m and C and D with p and q , there will exist exchange ratios *between* members of the first group and members of the second, but it is impossible to conceive of technical displacement cost ratios *save within* them. There may be an exchange ratio between A and D, but when A is produced there is no technical quantity of D sacrificed. Yet there will certainly exist costs of production in the value sense.

Moreover—and this is even more important—it is the central requirement of any theory of cost that it shall explain the *actual* resistances which production in any line of industry encounters, that it shall explain to us the influences determining the elements of which account is taken by those responsible for production. Now, there can be no doubt that these influences are of the nature of valuations. The isolated producer thinks of the sacrifice he is making by not producing something else. The entrepreneur in the exchange economy thinks of the prices he has to pay for the factors of production. In each case, although—as with all valuations—there may be in the background a technical condition, yet the final determinant is not merely technical. The isolated producer thinks not merely of the quantity of goods he gives up, but of their place on the relative scale, compared with the place on the relative scale of the goods he acquires. The price which the entrepreneur pays for the factors of production he uses is determined not by the *number* of products which they can produce elsewhere, but by the value of such products. Indeed it is most highly improbable that he knows at all the number of products which can be produced elsewhere. All that he knows are values of the factors of production, which are, of course, reflections of the value of other products. If we reflect upon the

¹ We can see this most clearly if we contemplate an extreme case. Suppose a state of affairs in which two commodities are produced by the aid of two classes of factors of production—the factors entering into the manufacture of the two commodities in proportions which are different for each commodity. (For example, P_1 involves $2x$ and $1y$ and P_2 $1x$ and $2y$.) Now suppose a shift of demand. The relative scarcities of the factors and of the products will change. The cost of production (in money terms) of the commodity whose manufacture involves the higher proportion of the factor which has become relatively scarcer will rise. The cost of production of the commodity whose manufacture involves a higher proportion of the factor which has become relatively less scarce will fall. There is no movement of technical displacements which corresponds to this.

way in which equilibrium is established, it is surely obvious that it is only through regard for cost in the value sense that any harmony between technical displacements and prices can be conceived to come about. It is only in equilibrium that such a harmony exists. In a state of disequilibrium, prices, costs and displacement ratios may all be different. If we do not keep these things conceptually discrete, we cannot understand the actual process of equilibration. This is not merely true of the Austrian approach. The condition that prices shall be equal to cost of production in the value sense is as essential a condition of equilibrium in the Walrasian system as the condition that marginal products shall be proportionate to factor prices.

For both these reasons, therefore, because there are whole areas where technical displacements are not conceivable, and because it does not focus attention on the actual process of price formation, I conclude that the conception of costs as quantities of goods foregone is not acceptable. No doubt the technical conditions of production play an important part in determining the conditions of equilibrium. But to make the cost concept purely technical is to deprive it of important analytical functions and to run the risk of misunderstanding. We shall see that a very similar procedure underlies some of the deficiencies of particular equilibrium analysis.

But this brings me to the second part of my paper—the relation between this general conception of costs and the Marshallian supply curve.

II

According to Wieser's Law, costs of production under competitive conditions are a reflection of the value of the alternatives which are displaced in order that the goods in that line of production may be produced and appropriated by the ultimate consumers. That is to say, they are essentially a reflection of the strength of excluded demands—demands both for the specific factors specialised to such lines of production and the non-specific factors capable of employment elsewhere. It seems to follow that, in the normal case, at the point of equilibrium, just as demand price will be decreasing, so will cost be increasing. This is quite obvious in the case of equilibrium of two commodities. To push production beyond that point would involve a product of diminishing relative utility—that is, a sacrifice of increased relative utility. I do not think that the situation is fundamentally changed when we consider many commodities. Nor do I think that, in this connection, it is necessary to take account of

the possibilities of unusual utility functions To move in any direction from a position of equilibrium is to encounter increased resistance this is the fundamental conception

But if this is so, what are we to say of the constructions, so familiar in the Marshallian system of what is sometimes called—in my opinion not very helpfully—"partial equilibrium analysis" the supply curve parallel to the x axis, and the supply curve with ~~a~~ negative inclination? At first sight we seem to be faced with a complete contradiction Here are constructions which, if *they* are valid, seem to point to a definite rejection of our fundamental conception, while if *it* is valid, seem themselves to be doomed to be rejected Nor are we in any way reassured when, turning to post-Marshallian criticism, we find it stated on high authority that, for the analysis of competitive conditions—and, of course, it is competitive conditions which are in question—constant cost is to be regarded as the normal and increasing cost as the quite exceptional condition¹ We seem to have discovered a major inconsistency in the very centre of the corpus of pure economics

Now in circumstances of this kind, before concluding that it is necessary to make a complete break with one or other of the apparently conflicting usages, it is always advisable to inquire more closely into the implicit assumptions on which they proceed Again and again in the history of economic thought, the apparent contradiction between different usages has come to be seen to rest not upon deficiencies of logic on the one side or the other, but upon differences of assumption concerning the problem to be solved This was notoriously so in the case of the historic disputes regarding the Theory of Rent² A similar difference can, I think, be shown to underlie part at least of this apparent contradiction in the Theory of Costs

For if we look more closely at the constructions in question, it becomes fairly clear that they are appropriate to the investigation of fundamentally separate problems The general propositions regarding costs which spring from Wieser's Law are essentially a description of the conditions of equilibrium They answer the question, what would happen to costs if, from a position of equilibrium—*other things remaining equal*—it were attempted to

¹ P. Sraffa, "The Laws of Costs under Competitive Conditions," *Economic Journal*, 1926, pp. 535, 550

² I have attempted to indicate some of the more important of such cases in an article entitled "On a Certain Ambiguity in the Conception of Stationary Equilibrium," *Economic Journal*, 1930, pp. 194-214 The present paper is to be regarded as essentially a continuation of the same train of thought—but applied to a wider area than the simple analysis of final equilibrium

increase or diminish production in any particular line of industry. The constructions which we associate with particular equilibrium analysis, on the other hand, deal with what would happen if *other things were varied*, i.e. if production were to be increased in response to an increase in demand. That is to say, that they are essentially germane to a Theory of Variations. They relate not to forces which maintain equilibrium once it is established, but rather to the differences between one equilibrium position and another.

Once this is realised the apparent contradiction which we have been considering vanishes. If other things do not change and it is attempted to increase the supply of a certain product, from the point of equilibrium, then it is natural that costs should rise, for the increase must be brought about by the use of factors which are more urgently demanded elsewhere. But if other things change—if, for instance, there is an increase in the demand for this line of product—then an increase of production to meet it need not encounter such an increased resistance. The change in the data which is characterised by the increase in demand here must be accompanied by a diminution of demand elsewhere, and this may be such as to release factors of production in such measure as to permit the necessary extension at constant, or even at diminishing cost. Once the data change, there is no presumption that an increase in output of a particular kind must be accompanied by more than proportionately increased outlay.

There is, therefore, no fundamental incompatibility between the implications of Wieser's Law and the constructions of "particular equilibrium" cost analysis. But it still remains to decide what degree of validity is to be attributed to these constructions in the actual connections in which they are most frequently employed.

If what I have been urging is correct, it seems clear that we cannot regard the Marshallian supply curves as serving the exact purposes of any causal explanation. They are rather to be regarded as providing schemata of certain possibilities of price variation. If the demand varies in this way and if the cost varies in this way, then it is implicit in these assumptions that the price will change in this way. They provide, as it were, a convenient shorthand note of different ways in which particular changes may be regarded. According to Edgeworth, 'movement along a supply and demand curve of international trade should be regarded as attended with rearrangements of internal trade. as the movements of the hand of a clock corresponds to considerable

unseen movements of the machinery " ¹ It is the implication of what I have already said, that this too must be the way in which we should view the supply curves of the theory of domestic values, if our usage is not to be out of harmony with the more precise implications of general equilibrium analysis. They are notes of the implications of given changes of the general conditions of demand *and* supply, even though one curve is not shifted.

If this is true, it follows that the construction in question must have a very limited validity for the analysis of the ultimate conditions of equilibrium. Its essential function is to facilitate the examination of what happens when certain conditions are varied. The assumption which underlies its use in descriptions of final equilibrium, that all possible variations outside the particular industry or market under consideration may be neglected, is essentially incompatible with the assumptions upon which any exhaustive description of such conditions must necessarily be based. This, indeed, is only another way of putting the point which has already been made. The assumption that the factors of production have an infinitely elastic supply leads to a concentration on the purely technical features of the situation which *necessarily* misleads when the conditions of final equilibrium have to be determined. The objection made earlier to the Knight-Haberler method of treating technical displacements as equivalent to value costs, applies much more strongly to a treatment of value costs which proceeds as if only technical determinants were relevant. It is quite true that, in a condition of competitive equilibrium, the prices of factors common to different industries are the same for the different industries concerned. But this is one of the *results* of the equilibrating process. It cannot be assumed to be a *condition* which would necessarily persist, were the other relations in the equilibrium disturbed. Yet this, of course, is the implication of a "constant cost" supply curve which is prolonged on either side of the point of equilibrium intersection.

Now, no doubt, once we get away from the hypothesis of pure competition, there are many problems in which the technical element is so predominant that, for certain purposes, constructions which focus attention upon such elements are permissible and

¹ *Papers Relating to Political Economy*, Vol II, p 32. Of course, this usage of the integral curves, which assumes other commodities besides those registered on the co-ordinates to be produced in the economy under consideration, must be distinguished from the use of similar curves under the assumption that only two commodities are capable of coming into existence. There are objections to the use of such an apparatus, well known to all readers of Pareto, but it is arguable that if Marshall had proceeded on these lines he would have been much more reluctant to adopt his compromise constructions than in fact he was.

helpful It is well known that this is so in the case of the theory of monopoly Recent work suggests that it is so in the case of the analysis of imperfect competition

But such uses have their limitations It is clear that they may be very definitely misleading when it is a question of deciding the significance for the economic system as a whole of one equilibrium position as compared with another As I have argued elsewhere,¹ I am of the view that most investigations of this sort beg other, more fundamental, methodological questions But, putting this on one side, it is surely clear that constructions which depend on the assumption that other things elsewhere remain unchanged, must necessarily lead to false conclusions when it is a question of estimating the total significance of changes which, by definition, *cannot* be unaccompanied by changes elsewhere

A simple example will make this clear In the analysis of monopoly, for certain purposes the apparatus of intersecting demand and supply curves provides first approximations which are acceptable But in any attempt to discover the significance for the economic system as a whole of monopoly in any line of industry it is open to very grave objections For the assumption on which it proceeds—the assumption that other things remain equal—is incompatible with the most obvious implication of monopolistic restrictions, namely, the assumption that, since the number of factors employed in the monopolised industry is different from what would otherwise have been the case, their productivity in price terms *must necessarily be different* It is illegitimate to argue that this change is of the second order of smalls It may be of the second order of smalls for the monopolist's price policy It may be of the second order of smalls in each of the other branches of industry affected, but for all the other branches of industry taken collectively it must be of a magnitude comparable in the universe of discourse—the “social” effect of the policy—with the magnitude of the primary variation The objection, it will be noted, is almost exactly symmetrical with the fundamental objection to the use of the concept of consumers' surplus

The case I have chosen is, of course, a very simple one I should be very sorry to be understood as suggesting that those who use the apparatus I am discussing more frequently than I would care to do, are likely to be unaware of the proposition it exemplifies But experience of the controversies of the last

¹ See my *Essay on the Nature and Significance of Economic Science*, chapter vii,

twenty years does, I think, suggest that the use of supply curves, rather than the apparatus of general equilibrium analysis, in discussing questions of this sort, carries with it dangers which may entrap even the subtlest and acutest intellects. There is a passage in the late Professor Young's critique of Professor Pigou's former position with regard to diminishing return industries¹ which has always seemed to me to be especially significant in this respect although, curiously enough, it has not attracted as much attention as other parts of the article. "The problem as a whole, it seems to me," he says, "is one to which the general theory of the diminishing productivity of individual factors is appropriate rather than the curve of marginal supply prices."² A fallacy which ensnared both Edgeworth and Professor Pigou is one which must necessarily be regarded as peculiarly deceptive. But I doubt very much whether they would have been thus ensnared if, instead of approaching the problem from the point of view of the intersecting curves of particular equilibrium analysis, they had started from the marginal productivity theorems—the example *par excellence* of the general equilibrium approach.

III

I hope I have said enough to make clear my view that there are profound dangers in any approach to the cost problem which identifies cost with the merely technical or which treats costs as if only technical influences were significant. It is, therefore, with an easy conscience that I can advance to an examination of certain aspects of the relation between costs and productivity in the technical sense.

There is no need for me to detain the reader with an examination of those variations of technical productivity which lead to increasing supply price. This is one of those parts of economic analysis where there is little ground for disagreement on purely analytical considerations. Dr Sraffa, who is sceptical of the importance of the conception, bases his scepticism avowedly upon empirical grounds. Cases where one line of production utilises so large a proportion of the total supply of any factor of production that changes in the demand for the product will bring

¹ *Wealth and Welfare*, pp 172-79

² *Quarterly Journal of Economics*, Vol XXVII, p 676, *et seq*. See also Knight, "Fallacies in the Interpretation of Social Cost," *Quarterly Journal of Economics*, 1924, pp 218-29. Professor Pigou's retraction of his original proposition is to be found in the second edition of the *Economics of Welfare*, p 194. Edgeworth's endorsement of this retraction in his review of this volume, "The Doctrine of Social Net Product," *Economic Journal*, 1925, pp 30 ff.

about changes in its price, he thinks, are rare. This view is, apparently, shared by Professor Knight. Whether or not one regards this as having *prima facie* plausibility, depends in part, I think, upon one's views on the classification of the factors of production. It sounds much more plausible if one thinks of two factors of production than if one thinks of many. But, in any case, no analytical issue is at stake.

But, on the other hand, when we come to those technical conditions which lead to diminishing supply price we find a very different state of affairs. The broad considerations involved in the discussion of imperfect competition and monopoly are, perhaps, not open to serious question. But the problems of diminishing costs under competition are still the subject of dispute and it is interesting to linger a little in this region.

We have seen already that if demand for a particular commodity increases, it may be accompanied by changes in demand elsewhere such as to cheapen the factors of production in the line of production in question. This is a possibility which emerges from general equilibrium theory, but it is not the possibility with which I wish to concern myself in this connection. What I want to do rather is to concentrate upon the possibility of cost reductions which are due to the operation of technical factors.

Now, at the present time it is generally agreed that, under purely competitive conditions, such reductions must be the effect, in the first instance, of the operation of external economies. That is clear even if, with Marshall and Mr. Shove, we recognise that the operation of external economies may be accompanied by changes in the optimal size of firms which themselves involve cost reduction. Unless external economies are operative, the technical influences making for diminishing costs will exhaust themselves before the first point of competitive equilibrium is reached. The influences making for cost reduction must be *outside* the firms whose costs per unit are under observation.

So far so good, but now the question arises why the external economies operate only as the scale of production increases. Clearly, the answer is that it does not pay to initiate the enterprises from which they spring until the demand for the ultimate produce is of a certain size. The doctrine of external economies, as Young emphasised, is merely one way of introducing into analytical constructions the old Smithian doctrine of the advantages of division of labour. It is one of the most familiar platitudes of this doctrine that the wider the market the wider the division of labour which is made possible.

But this does not completely answer our question. For we still remain in the dark concerning the reason why the advantages of division of labour must wait upon extensions of the market. Why cannot the various cost-reducing divisions take place *ab initio*, but each on a smaller scale? If we put the question in this way, the answer is obvious. For technical reasons they cannot be on a smaller scale. The quantities of factors which are exploited in a progressive division of labour are *indivisible* below a certain absolute size. Division of labour, external economies, depend upon demand conditions which render indivisible potentialities of production profitable.

But to solve the question in this way is only to find ourselves confronted with another. We have explained the possibility of diminishing costs in this sense by invoking the existence of indivisibility in the methods of production. But the assumption of competition seems to preclude the existence of indivisible factors, in a fully competitive situation, the factors of production must be capable of infinite division—or, in practical terms, of such degree of divisibility as to preclude the existence of any increasing return combination, using the term in its technical sense. How then, as the market enlarges with a general increase of factors of production, can we assume indivisibility to be exploited?

The answer is, I think, to be found in the distinction between actual and potential uses of factors of production. It may very well be the case that, given the total conditions of production, productive factors are sufficiently divisible in all the uses to which they are put for the situation to be regarded as competitive. But it is quite possible, at the same time, that some of these factors have *potential uses of a different sort* which, because of their technical indivisibility, are not exploited until the system as a whole, or large parts of it, has expanded. This, I believe, is a proposition which throws light, not only on the questions we are discussing, but also upon wider questions of localisation and general population theory. Let me try to explain what I mean.

Let me start with the simplest possible example. Among a group of independent producers of some simple product there may be one producer who has special skill at—shall we say—marketing. As a marketer he is greatly superior to the others. As a producer of the simple product he has equal skill. But his skill as a marketer cannot be satisfactorily employed unless there is a certain minimum quantity of marketing to do. Until demand has reached that point, therefore, he appears in the system as a

provider of units of simple homogeneous undifferentiated labour like the rest. The competitive situation is stable. But beyond that point he emerges in a new rôle. He is now another factor of production—hitherto not appearing in the equations of equilibrium. At first, of course, in this situation he may be in a monopolistic position. But until the point at which it paid to employ him in this way the situation was fully competitive.

The example I have given is one which can be supposed to occur under conditions which, to all intents and purposes, may be regarded as *acapitalistic*—that is, a condition in which production has not yet become, in important senses, roundabout conditions in which there is little vertical division of labour. But, of course, it is under more fully developed capitalistic conditions that the phenomena which it typifies become important. As capital accumulates, and demand increases, it pays to combine original factors of production, hitherto used in other ways, to produce technically indivisible means of production—machines, means of transport, and so on, which hitherto, because of their indivisibility, have not figured in the realised system of productive combinations at all. (If we think of the way in which capital accumulation has made possible the utilisation of indivisible transport systems, we can see how important considerations of this sort must be in any theory of localisation.) It is clear that the advantages of roundabout production are essentially the advantages of this vertical division of labour and that another way of describing them is to say that they consist in the progressive exploitation of potential methods of production excluded in less expanded systems by their technical indivisibility.

It is in this sense, I take it, that we are to interpret the theory of increasing returns developed by the late Professor Allyn Young in his presidential address to the British Association¹. And it is worth noting, as he showed, how the phenomena in question escape the apparatus of particular equilibrium analysis and, indeed, involve changes which are quite incompatible with its assumptions. Granted the assumption of the Youngian analysis, we can see how diminishing costs can be regarded as *implicit* in a situation which is actually competitive. But we see, too, that such developments are to be regarded as being much more probably the function of the development of many industries than of one of them. We see too—and this is, perhaps, the more important

¹ I ought perhaps to state explicitly that this is merely an interpretation. It is not a transmission of any esoteric oral tradition. My own views on these matters spring chiefly from reflections on the remarks on the variations of productivity in Taylor's *Principles of Economics*, pp. 141–2.

point—that the diminution of costs here contemplated is essentially the product of vertical division of labour—that is, of the disintegration of industries. Neither of these things is compatible with the implications of the supply curve. This seems to constitute a presumption that the use of this instrument in the analysis of variation may well involve a concentration on the insignificant exception to the neglect of what, both from the point of view of theory and practice, must be regarded as the typical and significant cases.

IV

So far in this paper, the propositions I have discussed have, for the most part, dealt with variations of costs in terms of what has been well called comparative statics. That is to say, they consist essentially of a comparison of two states of equilibrium, and an investigation of the causes of difference. The demand for a group of products increases so that in the new equilibrium position factor prices and costs of production are different, and so on. They do little to elucidate the actual process of change—the path followed through time between one equilibrium position and the other.¹ This is notoriously the field of theoretical economics in which least has been done and in which most remains still to do. In concluding this survey, therefore, it seems appropriate to add certain remarks on this matter.

It is not necessary, in this connection, to expatiate on the significance of the Austrian contribution to this theory. It is clear that, in the characteristically Austrian constructions, we have a technique which is pre-eminently suited to the explanation of the phenomena of movement. On the demand side, the conception of the dependent use (*abhängige Nutzen*), on the supply side, the conception of the displaced alternative—here we are dealing with elements which are the actual focus of attention of the economic subjects through whom changes come about. No one who has followed Wicksteed's exposition of the continuous relevance of Wieser's Law to the explanation of change² can

¹ The distinction between these two stages of the theory of variations is not often clearly recognised in the English and American literature. It is, however, very clearly stated by Pareto (*Manual*, p. 147), and it has recently been the subject of important studies by Mayer, Rosenstein-Rodan and Schams. See Mayer, "Der Erkenntniswert der funktionellen Preistheorien," *Wirtschaftstheorie der Gegenwart*, Bd II, pp. 146–239, Rosenstein-Rodan, "Das Zeitmoment in der mathematischen Theorie des wirtschaftlichen Gleichgewichtes," *Zeitschrift für Nationalökonomie*, Bd I, pp. 129–42, Schams, "Komparatives Statik," *Zeitschrift für Nationalökonomie*, Bd II, pp. 27–61. See also my article on Production in the *Encyclopedia of the Social Sciences*.

² *Common-sense of Political Economy*, Book I, chapter ix.

doubt that the main instrument of explanation in this field has already been devised ¹

These things are well known. Rather than linger in this neighbourhood, it is more profitable to turn once more to the Marshallian system. For here we have theories in which propositions which are true and helpful are not altogether disentangled from ways of expression which sometimes give rise to misapprehension.

The Marshallian doctrine of short and long period price is essentially an attempt to provide a theory of price change in terms of the length of time which is taken to overcome various technical obstacles on the supply side. The relative specificity—to use Wieser's term—of productive factors means that the immediate response to a change in the conditions of demand or supply is not necessarily a response to an ultimate equilibrium position. To take Marshall's own example, in the short period a change in the demand for fish will be met by an increased output from existing fishermen and a more intensive use of fishing gear already in existence. In the long period, however—I use Marshall's own words—"the normal supply price is governed by a different set of causes, and with different results" ². Capital and labour come into the industry or leave it, the fixed equipment involved is augmented or depleted. In the sphere of cost theory, this leads to the distinction between prime and supplementary expenses, in the sphere of distribution theory, to the distinction between quasi-rents and interest.

Now there can be no doubt that this doctrine contains much that is most valuable and important. The distinction between the immediate and more distant effects of a given change in demand, the imposition of a small tax, and so on and so forth—this is one of the most significant distinctions of the theory of variations, and it is one of Marshall's most conspicuous achievements that it has become universally recognised. None the less, as it stands, it is by no means immune from criticism. In particular, two criticisms suggest themselves.

In the first place, it may be suggested that it is liable to give

¹ It is significant in this connection that, historically, the Austrian theories are said to have sprung from Menger's inability to explain the short term fluctuations of produce and stock markets in terms of the classical generalisations. It is clear that, for the most part, the classical theories are to be regarded as theories of comparative statics (in the sense explained above) with the differences between successive states of equilibrium explained in technical terms. The wage fund theory in certain aspects has, of course, a more dynamic character.

² *Principles*, 8th edition, p. 370

rise to considerable misapprehension if one speaks, as Marshall does in the passage I have quoted, as if the causes operating in the long run are different from the causes operating in the short. Given a change in the data and the other fundamental conditions—including, as we shall see, what other people think about the data—the process of price change through time is determinate. The path followed by price, the rate and magnitude of the change, is determined by the total situation. Although the effects of the different conditions operative may *show themselves* at different points in the path, it is misleading to speak as if, from the moment of change onward, they were not each in operation. When the demand for fish increases, if it is supposed that the increase will be permanent, there is not an interval which elapses before the “long period tendencies” begin to operate. They *operate* from the beginning, but, owing to their nature, their *effects* are not manifest until some time has elapsed. It is therefore arguable, I think, that to have different labels for the discussion of long and short period effects here is liable to veil the essentially continuous nature of the economic process. Short period and long period theory in this sense do not explain different processes. They explain different *sections* of the same process. It would be absurd to suggest that this was not known to Marshall. But it is none the less true that his particular mode of expressing himself has sometimes led to its being overlooked by his readers.

Secondly—and this criticism is more substantial—here too, as in other Marshallian constructions which we have examined, it may be objected that the emphasis tends to have too technical a complexion. No doubt, the technical obstacles to change, the resistances through time, are fundamental. But it should be clear that, given the range of technical obstacles, the obstacles that will actually be encountered in any process of adaptation depend essentially upon *estimates* of the permanence of the change to which the adaptation is a response. The change which is expected to last for a short period invokes responses essentially different from the responses which are evoked by the change which is expected to be permanent. What are prime, and what are supplementary expenses depend essentially upon the length of time over which a change of output is expected to be operative. Thus, if by long period we understand a period long enough for final equilibrium to be reached, we can say that the length of the period is not only a function of the magnitude of the technical obstacles but also of the expectations entertained by the producers. The time it takes for an industry to become adapted to a per-

manent shrinkage of demand depends in part upon the rate of physical depreciation. But it depends, too, upon the length of time taken by producers to become convinced that the change is permanent.

It seems, therefore, that, in a complete theory of costs, the part played by the estimates of the future of the various producers concerned will play a larger part than it plays in the original Marshallian doctrine. But, if this is so, then a further change is probable, which will necessarily bring this part of cost theory into more intimate relations with the other parts of the theory of change. There are certain cases of changes in data where different degrees of foresight on the part of producers have little effect save on the rate of adaptation. A single-line change of demand for consumer's goods in a system otherwise in even balance may be a case of this sort. Here, perhaps, the old single-line methods of cost analysis may be sufficient to explain the total movement. But there are other cases where the different estimates on the part of producers will themselves bring about further changes in the general situation—a simultaneous falling off of demand for the products of a large group of industries, as at the turn of a trade cycle, is an instance. Here, not merely the immediate policy of the producers concerned, but the future course of the general oscillation will be, in part at any rate, determined by expectations of the kind here discussed. And here, single-line analysis is patently inadequate. If the cost problem here is to be handled properly, it must be dealt with in conjunction with the theory of economic fluctuations. It is probable that the extraordinary sterility of much contemporary thought on the problems of overhead costs and surplus capacity is due to the fact that this junction has not yet been satisfactorily effected.

LIONEL ROBBINS

London School of Economics

PROFESSOR PIGOU'S THEORY OF UNEMPLOYMENT

The Theory of Unemployment By PROFESSOR A C PIGOU
(London Macmillan & Co 1933 Pp xxvi + 319 15s)

THE reviewer of Professor Pigou's *Theory of Unemployment* must needs feel abashed by the task which confronts him For this work is a supreme intellectual achievement, a masterpiece of close and coherent reasoning Professor Pigou has summoned his full powers of analysis and applied them with unflagging vigour The book contains about three hundred pages and almost every one is tightly packed with ratiocination Moreover, it is a coherent whole with all its parts interrelated, and the significance of the parts can only be fully apprehended when their relation to the whole is apprehended

The difficulty which, it must be acknowledged, this book presents to the reader is not due to any obscurity in its writing On the contrary, Professor Pigou shows here, as always, a superb command of clear expression Terms are not used without definition and the definitions are pellucid and precise Indeed his conscientious care to be unambiguous should be taken as a model at this time when intrinsically obscure economic writing abounds

His method of presentation is extremely austere The polished surface of his pages is free of ornamentation Every word is relevant and carries the argument on It has been his custom in earlier works to illustrate particular points by quotations from specialist writers This form of relaxation for the reader has been reduced to a minimum in the work under review Moreover, he wastes no time in barren controversy, it is his purpose to construct and not to destroy He resists the temptation to use his great powers to lay other economists low When particular views have to be refuted for the sake of his argument, his victims are almost always anonymous in these pages If a name is invoked, it is usually to quote with approval Nor, despite his own high standards, is there any expression of methodological arrogance or contempt for the clumsier weapons of others He contents himself with one reference in the Preface to those "writers on economic subjects, unacquainted with this tool [the differential calculus], who resent its use by others" A

touch of irony may also be detected in the expression "popular writers," who are made to suppose that "when the elasticity of demand for labour's contribution of processing is greater than unity over the relevant range, improvements in productivity necessarily lead to increases in the quantity of labour demanded at the standing real-wage rate" (p. 114). A crude enough error in all conscience!

Yet in spite of the great beauty, the exquisite workmanship, the painstaking lucidity of these pages, it cannot be denied that they make tough and laborious reading. One is tempted to search for the true cause of the difficulty. It is the case that close reasoning of this kind necessarily requires a severe effort of attention. It is the case also that Professor Pigou is sometimes a little cryptic, so that the reader has either to take his conclusions on trust or, in the absence of a superior mathematical intuition, to verify them by a more elaborate method with pencil and paper. I do not refer only to the solution of equations but to sections of the literary argument which have mathematical implications. But these facts do not explain the whole, or even the most serious part of, the difficulty.

This is due to somewhat different causes. In order to build up his system, Professor Pigou has to sort out the facts of real life so as to frame certain clear-cut concepts for use in his analysis. Now the student of economics, for whom this book is primarily intended (*vide* Preface, p. v), usually has a certain framework of concepts which he has acquired by dint of studying the principal literature of the subject. At every point when Professor Pigou sorts out the phenomena so as to define a new concept, and these points occur frequently, the reader is bound, if he is to profit by this book, to ask himself how far the concepts so framed correspond with those which pre-exist in his own mind, whether they are more or less relevant to the real world, and what relations the conclusions reached with their aid ought to have to his own preconceived ideas. If the conclusions differ from his own views, is this difference apparent only and due to a difference of definitions? Or is it a real difference? If so, a good deal of translation is needed to discover if and why his own ideas were erroneous. A fundamental work of this kind will not have served its full purpose unless the reader can permanently embody some of its propositions in his own working stock of principles. He will probably be unwilling to abandon his old concepts completely and start his economic life *de novo*. In this case he will be compelled to do much translation and re-translation, if he is to derive

the full benefit of Professor Pigou's work, and this process entails enormous labour. I do not suggest that Professor Pigou could by any device have spared the reader this trouble, if he was to say what he had to say. For unfortunately the technique of economic analysis is at present only standardised in very small measure, and any set of concepts that would prove easy for one reader would probably be extremely irksome to some other.

But there is a difficulty in Professor Pigou's work closely connected with this fact which might perhaps have been avoided. The salient steps in his arguments are not strongly underlined. It is really only at these steps that it ought to be incumbent on the reader to translate Professor Pigou's concepts into his own for purposes of verification and true understanding. But, in fact, since he is never quite sure when a salient step is occurring, he feels it necessary to do a great deal of translating and retranslating at points where this is not really necessary, that is, at stages in the reasoning which are, in fact, subordinate, but which he does not clearly perceive to be subordinate until he has finished the whole book and reads it for a second time. He is thus led into much labour which he might have avoided. The surface of the text is uniform and monotonous. There is, it is true, a great charm in this manner. If Columbus sets the discovery of America on an equal footing with his other daily adventures without emphasis or passion, the reader's thrill is enhanced and not diminished. This monotony of surface would call for nothing but praise, if only the subject-matter were not so difficult. Unfortunately, on this particular voyage, the reader does not know beforehand what America is or whether its discovery is of any importance. If this is never explained for him, he is in serious danger of completing his study of the journal without ever appreciating the great thing that he has been told.

The principal weapons which Professor Pigou uses for his attack on the problem of unemployment are the theory of marginal productivity and a theory which bears close kinship with the old Wages Fund theory, and which we may christen the Wage-Goods Fund theory. This revival is a welcome one. "Popular writers" have been in the habit of stating that the old classical theories of this type have been long since disproved and superseded by the marginal productivity theory. Such statements are both erroneous and harmful. These old theories are firmly founded on tautology, and may well prove, as is evidenced by Professor Pigou's book, to be most useful analytical tools. Nor is there any incompatibility between them and the modern

theory of marginal productivity Professor Pigou is able to use both the old and the new in the utmost harmony, without apology or defence he fits them neatly together with great artistry. His use of the Wage-Goods Fund theory does not imply a rejection of the Wages Fund theory in its strict classical form, for these two may also be fitted together. But for the purpose in hand Professor Pigou does not require the Wages Fund theory.

Professor Pigou has two main themes, the volume of employment in particular industries and the volume of employment as a whole (as well as their mutual reactions). Of his treatment of the former topic, which he conducts with great subtlety and beauty both in the earlier and final parts of the book, and of the many interesting propositions which he deduces, space forbids me to speak. I shall confine myself to some remarks on his treatment of employment as a whole.

Even here I shall limit myself severely, and consider mainly his advocacy of the case that wage reductions are likely to be associated with an expansion of employment. This proposition is of great general interest and it is of importance to scrutinise most closely how securely it is founded.

Professor Pigou begins by analysing the matter in "real" terms and then proceeds to a monetary analysis. There is, however, embedded in his real treatment one monetary chapter.¹ I shall consider this first, for it forms an indispensable link in the chain of argument favourable to the view that in the real world a wage reduction would lead to increased employment, and then proceed to consider his "real" treatment generally.

"Meditation along these lines," he writes, "has suggested to some persons the view that in actual life reductions in the money rates of wages would simply be reflected in a proportional fall in prices, so that no effect whatever either on the real rate of wages or on the volume of labour demanded would be produced."

He examines this view and rejects it. His grounds are as follows. He supposes wages to constitute the whole of prime costs. These fall, therefore, in the same proportion as wages. The purchasing power of wage-earners falls in the same proportion. But, "at the outset nothing has happened to non-wage-earners' money income." Consequently purchasing power as a whole and, while output is constant, the general level of prices will fall less than wage-earners' purchasing power and prime costs. Consequently there will be, on average, an excess of price over prime cost and a stimulus to expansion. The crucial proposition is that

¹ Part II, Chapter X

"at the outset nothing has happened to non-wage-earners' money income" In that the question is really begged Has nothing happened?

It must be remembered that payments to supplementary factors are residual It cannot be known what happens to these even "at the outset," until it is known what happens at the outset to the general level of prices Yet what happens to the general level of prices depends on what happens to the volume of non-wage-earners' money expenditure This in turn depends on what happens to their incomes No solution, therefore, can be reached on these lines

By way of hypothesis we may suppose that at the outset profit-earners maintain their old real level of purchases If they do this, the stream of purchasing power and the level of prices will be reduced by as much as the level of prime costs and

This is a matter of very simple arithmetic, but the opposite view is so widely prevalent that it may be well to set it out explicitly Let x , the unknown term, represent the fall in the amount of money expended as a fraction of the old amount This will also represent the initial fall of prices before the reaction on output is taken into account x is equal to the sum of two fractions, namely, the fraction showing the reduction of wage-earners' money expenditure divided by the previous expenditure of the whole community, and the fraction showing the reduction of non-wage-earners' expenditure divided by the previous expenditure of the whole community Let q be the fraction of total expenditure formerly contributed by wage-earners and $(1 - q)$ the fraction formerly contributed by non-wage-earners Let p be the reduction of wages expressed as a fraction of the old wages The first of the two fractions, the sum of which is equal to x , viz the reduction of wage-earners' expenditure divided by the previous expenditure of the whole community, is therefore

$$pq$$

If non-wage-earners maintain their old level of real purchases, the proportional reduction of non-wage-earners' money expenditure is equal to the fall of prices, x Thus the second fraction is—

$$x(1 - q)$$

It is required to find x We have the equation—

$$pq + x(1 - q) = x$$

$$x = p$$

i.e. the reduction of purchasing power and consequently the

fall in prices is equal to the fall in wages. Two corollaries flow from this

1 Since the fall of prices is proportional to the fall in wages, the fall in non-wage-earners' incomes is proportional to each. Consequently non-wage-earners will find their money income reduced by exactly the amount required to make their income balance their expenditure at the old standard of living, and they will lack the means to expand purchases. If they do not expand purchases initially, they will have no inducement to do so later.

2 Since the fall in prices is as great as the fall in prime costs, there will be no inducement to expand output. No new employment will be given.

The distinction which Professor Pigou draws between wage-goods and non-wage-goods, though vital to his general analysis, does not affect this particular argument. The distinction would indeed be of importance on one assumption, namely, that the non-wage-earners purchased no wage-goods at all. In that case wage-goods prices would fall in proportion to wages, non-wage-goods prices would be sustained, and non-wage-earners' incomes as a whole would be sustained, since what they lost on the lower prices received in respect of wage-goods would be precisely equal to what they saved on prime costs. But if they spend any money on wage-goods at all, their money incomes will be reduced owing to the reduction of the prices of the wage-goods they purchase and, by competition, the process of weakening in the non-wage-goods prices will be set up and, provided that non-wage-earners do not increase the real volume of their purchases, all prices will be reduced by the same amount as wages. The "process of weakening" referred to is a mathematical and not a temporal one. The total fall of non-wage-goods prices may be regarded as the sum of an infinite series, the summation of which is effected instantaneously in time.

It remains to consider how far the hypothesis that non-wage-earners maintain their old real level of purchases without increase or diminution is a proper one. It certainly seems to be justified by the consequences deduced, for, if they do this, they will find themselves with no spare money income left on their hands. It can be shown, however, that if they adopt a different policy and maintain their old money level of expenditure they will also be justified by results, their old money incomes will be maintained, prices will fall less than prime costs and there will also be a stimulus to expand output. It might be argued that, since, whether they maintain real purchases or money expenditure,

they will be solvent, and since, by maintaining money expenditure (which means increasing their real level of purchases), they will be better off, they will tend to do the latter. Such an argument is invalid, however, *because it proves too much*. For at any time, with or without a reduction in money wages, they can put themselves in a better position in the short period by increasing real purchases. The extra money that they spend comes back to them, they gain at the expense of wage-earners, real wages being reduced.

There is, in fact, as Mr. Keynes has so well shown by his principle of the widow's cruse, something indeterminate about the volume of profit-earners' joint expenditure. What normally holds them in equilibrium is that they can only expand real purchases and remain solvent if they act jointly. But unless there is a general stimulus to expand they will not usually act jointly, and so the whole system will remain in equilibrium.

The fact that profit-earners can, when a money-wage reduction occurs, jointly expand purchases and remain solvent, cannot be used as an argument that they will jointly expand in consequence of a money-wage reduction, for they could do that without a wage-reduction. If they have not already done so, there is nothing in the nature of a money-wage reduction to make them do so subsequently. But if they do not do so, prices will fall by as much as prime costs, they will have no unspent income left over, and they will have no subsequent stimulus to expand purchases, and there will also be no stimulus to expand output.

It is true that a wage-reduction accompanied by ballyhoo may incline employers to expand purchases. But so might ballyhoo without a wage-reduction. It is the ballyhoo that is the operating factor.

It appears from the foregoing that we have here a weak link in Professor Pigou's chain of argument, and that we cannot with any confidence expect a money-wage reduction to cause a real-wage reduction in a closed system.

We must now address ourselves to the important question whether a real-wage reduction is likely to cause an increase of employment. Put broadly, and omitting details, Professor Pigou's position may be set out as follows. If wages are contracted to be paid in wage-good units, the demand for labour in the wage-goods industries as a whole depends on the labour productivity function, in such wise that the marginal net product of a unit of labour must be equal to the real wage per unit stipulated for. The volume of employment in other industries

is a function of the volume in the wage-goods industries (see p 90 and Pt I, Chap V), more particularly, it is equal to the product of the wage-goods industries and of the export industries whose products are exchanged for wage-goods, less the amount of wage-goods paid back into those industries as wages, and less the amount of wage-goods consumed by non-wage-earners, all divided by the amount of wage-goods per unit of labour stipulated for. The Wage-Goods Fund may be further augmented by savings on unemployment pay, etc., and by reductions in outstanding stocks of wage-goods.

It is advisable, therefore, to consider very closely the nature of the demand for labour in the wage-goods industries. Professor Pigou assumes that the elasticity of the labour productivity function has negative value, *z e* that prime labour costs in the wage-goods industries are rising (Cf p 45, line 2, "We know that η is negative"). And it is the case that in every industry operating in conditions of perfect competition they must be rising.

In his Preface (p vi) he states that "many complications of detail associated with the imperfection of markets are left aside." He has, it is true, explicitly dealt with the problems of monopoly in certain passages (especially Pt II, Chap IV, and Pt III, Chap VII). But he does not consider them in connection with his treatment of the demand for labour in the aggregate, and it is precisely in this connection that the prevalence of imperfect competition may affect the argument, not merely in matters of detail but in its essential nature.

The presence of imperfect competition has two important consequences. 1. Marginal labour costs may be falling in the equilibrium of the short period. It must be noted that throughout the book Professor Pigou is concerned with the short period. 2. The real wage of labour stipulated for is equated not to the marginal net product of labour, as defined on p 41, but to the marginal revenue derived from the employment of labour.

1. It would be wrong to brush complications connected with imperfect competition aside as of subordinate importance in the general theory of unemployment. In this country, for example, by far the greater part of industry is working in conditions of imperfect competition, in the sense that particular firms are confronted by demand curves of less than infinite elasticity. In these circumstances the elasticity of the labour productivity function may have positive value. It is true that if a firm is producing the amount of output for which its fixed equipment was designed, the probability that marginal costs will

be falling is not a great one. But for short-period equilibria in which output has fallen to some value below that for which the plant was designed, the probability becomes much greater (In perfect competition, *per contra*, marginal costs *must* be rising even in the short-period equilibrium of a depression.) It is quite a feasible proposition, therefore, that on balance marginal costs in British industries at the present time are falling or, anyhow, constant and would not rise over a wide range of expanding output.

Let us suppose that this is so. It follows that the wage consistent with an equilibrium with a higher volume of wage-good output would probably be higher than or equal to and not lower than that appropriate to the lower volume. If this is so, the defence of wage-reduction would have to proceed on different lines. It would then be recommended not as the introduction of a wage appropriate to an equilibrium with a higher level of output, but only as a temporary stimulus to expansion, to be replaced by a higher wage when the stimulus had become effective. In judging such a recommendation it is necessary to advert to the second principal feature of imperfect competition.

2. If the wage-good wage stipulated for is equal to the marginal net wage-good product, a reduction in the wage-good wage must tend to stimulate output. And this is the case in conditions of perfect competition. It might be objected that a reduction of the wage-good wage might reduce the demand for and value of wage-goods, as well as reducing their cost of production and so obviate the stimulus to expansion. Such an objection would be erroneous. Considering wage-goods industries as a unity, nothing can reduce the value of wage-goods *in terms of wage-goods*. Now, if initially the wage-good wage is equal to the wage-good product at the margin, a reduction of the wage-good wage must make it less than the wage-good product at the margin for the old level of output. Output will be stimulated until the rising labour cost at the margin raises the wage-good cost per unit of output to the level at which it stood before the rate of wage-good wage was reduced. Consequently, in Pt. II, Chap. IX, Professor Pigou argues that the slower the rate at which labour costs rise, the greater stimulus to output a given wage-reduction would exercise. At first sight it might seem that if labour costs are not rising at all but falling, Professor Pigou's argument would stand *a fortiori*.

But the position is radically altered if the wage-good wage stipulated for is not equal to the marginal net wage-good product,

but is something less. In that case it is necessary to consider explicitly the effect on the demand for wage-goods consequent upon the reduction of wages.

Now the demand schedule for wage-goods in terms of wage-goods cannot be affected by a reduction of wages. It does not follow that the marginal revenue in terms of wage-goods derived from the sale of wage-goods cannot be so affected. The elasticity of the demand for wage-goods in terms of wage-goods is infinite, it must not be inferred from this that the marginal revenue in terms of wage-goods derived from their sale is equal to their value and constant at all levels of output, this would only be true if there were, in fact, only a single sort of wage-good. In the chapter already referred to (Pt II, Chap IX), Professor Pigou imagines, in order to make the exposition simple, that there is only a single sort of wage-good. This supposition does not affect the validity of his argument provided that conditions of perfect competition are assumed. But to use this supposition in order to consider the reaction of a real wage-reduction in conditions of imperfect competition would involve a fallacy.

Each particular wage-good has its own demand curve. If a wage-reduction occurs, the value of some wage goods in terms of wage-good units at the old level of output may rise while that of others falls. The rises must exactly balance the falls if a computation is made weighting each good as it is in fact weighted in the make-up of a wage-good unit. But in addition, the elasticities of the demands for particular wage goods may alter, and it is by no means necessarily the case that the decreases of elasticity are balanced by opposite increases. But the marginal revenues derived from the sale of various wage-goods depend on these elasticities. If the elasticities grow less the marginal revenues will decline. If the decline of marginal revenues is greater than the real wage-reduction, there will be a contraction of output in the wage-good industries.

There seem to be some general grounds for supposing that a decrease of elasticity would occur. The reduction of wages involves a transfer of command over wage-goods to non wage-earners. The demand of these is likely to be less elastic than the demand of wage-earners. Not only would there be a slump in the value of wage-goods compared with other goods, this would not matter as wages are assumed to be fixed in wage-goods, but the demands for particular wage-goods would become much less elastic at the old level of output. This consequence would not, of course, follow if the whole of the extra wage-goods over

which the employers secured command were utilised for putting extra labour to work, whether they would do this or not would no doubt depend on whether forces *other than wage-reduction* were making for expansion or contraction

A decrease of the average of the elasticities of demand (weighted as explained above) from 3 to $2\frac{1}{2}$ would cause the weighted average of the marginal revenues to fall by 10 per cent and would offset the stimulating effect of a 10 per cent reduction of wages. If the decrease in elasticities was greater than this, output in the wage-good industries would contract. If this contracted sufficiently and if real costs were on balance falling (*i.e.* rising as output contracted), the command over wage-goods accruing to employers might actually contract (Professor Pigou's K_2 on p. 73 would be less than K_1), and contraction in non-wage-good industries would ensue. Even if this did not happen, the contraction in wage-good industries might well be greater than the expansion elsewhere.

The burden of the foregoing criticism may be summarised as follows. 1. It is not certain that a money-wage reduction would entail a real-wage reduction. 2. It is not certain that the real wage appropriate to a higher level of output in the short period is lower than the real wage appropriate to a lower level. This would only be certain if conditions of perfect competition everywhere prevailed. 3. Whether a higher level of output requires a lower real wage or not, it is not certain that a real-wage reduction would cause the system to move to a higher level of output. If it is, in fact, the case that a higher level of output requires a lower real wage, the difficulties of 1 and 3 suggest that the possibilities of achieving this by means other than money-wage reduction should be sedulously explored.

It must not be supposed that I have attempted to replace Professor Pigou's affirmations by contrary negations. I only claim that the case for wage-reduction is not established by his reasoning. Nor must it be supposed that I have attempted to impugn the value of Professor Pigou's general analysis, for I have only singled out one strand in the great texture of his reasoning for consideration from one point of view.

His section on monetary factors (Pt. IV) is easier reading than the rest, perhaps because it is on more familiar lines. After a criticism of the concept of a "neutral" money, he proposes a standard monetary system, not wishing to imply that it is "better" than other systems but as a "reference model." It is, however, suggested, I understand, that its adoption would

allow real forces to operate with the least possible fiction. He writes "I define the standard monetary system as one so constructed that, for all sorts of movements in the real demand function for labour or in real rates of wages, whether they last for a long time or a short, the aggregate money income is increased or diminished by precisely the difference made to the number of work-people (or other factors of production) at work multiplied by the original rate of money wages" (p. 205).

In this definition, by exception to the general rule in this volume, there appears to be some element of ambiguity. Ought not the words "due to real causes" to be inserted after "in the real rates of wages"? For it is possible to conceive of a fall in real wages, an increase of employment and an increase in aggregate money income, all associated together in such a way that the unamended definition of the standard system is fulfilled, but all are due to the infusion of new money. And surely Professor Pigou desires to rule such an eventuality out. A further difficulty remains. Suppose an improvement in productivity of Professor Pigou's "normal type" (p. 114) to occur in wage-goods industries such that, imperfect competition notwithstanding, the real demand for labour is increased, and suppose that on the instant the labourers demand such an increase of money wages, hoping to get a real increase of like amount, that the net effect of the two changes would be, if real wages were in fact raised by no more nor less than money wages, that employment was neither increased nor diminished. In these circumstances the monetary authority is to maintain aggregate money income unchanged. But if it does this, on normal assumptions, the price level will tend to fall and the real wage to rise more than was intended by the monetary increase. Unemployment will be generated in spite of the fact that the rise originally demanded by wage-earners was not of itself sufficient to generate it.

More generally, Professor Pigou, unlike Mr. Keynes, does not make it incumbent on the monetary authority to take into account what is actually happening in the world of wage negotiations when regulating their policy. This appears to be a weak point in his system. Another example may be given. Suppose a Trade Board set up in a sweated industry to raise wage rates there. If there was no change in the productivity functions or other surrounding circumstances, this might involve a rise in the average of real-wage rates in industry generally and a restriction of employment, and it would then be incumbent on the authority to reduce money incomes. Would it not be better, in the manner

of Mr Keynes, to allow a slight rise in prices, so that the action of the Trade Board might have no effect on the average of real-wage rates ?

The general monetary analysis of Professor Pigou has a close family relationship to that of Mr Keynes. This may be explained as follows. Professor Pigou's analysis bears to the Wage-Goods Fund theory the same relation that Mr Keynes' equations bear to the Wages Fund theory proper. Mr Keynes expects a disequilibrating force to be brought into existence, if entrepreneurs attempt to pay to wage-earners engaged on the output of non-consumable goods more or less purchasing power than is released by saving. Professor Pigou expects disturbance if entrepreneurs attempt to pay to wage-earners in the non-wage-good industries more wage-goods than non-wage-earners are prepared to set aside for this purpose out of the surplus not consumed by wage-earners in the wage-good industries (I leave aside complications connected with foreign trade). Just as the Wage-Goods Fund theory is complementary to and not contradictory of the Wages Fund theory proper, so the analysis of Professor Pigou may prove to be complementary to that of Mr Keynes, and the standard system desired by the former to be identical with that desired by the latter. To trace the interconnections of the two methods of analysis would constitute an interesting piece of theoretical research. Which tool of thought is most helpful in application to practical problems can only be solved by experience.

Professor Pigou holds the principal weapon for maintaining the standard system to be the discount and open market policy of the central bank. But in times of deep depression the expedient of public loan expenditure should also be used. "In these circumstances attempts to uphold the standard monetary system, so long as reliance is placed on purely monetary defences, are bound to fail. If, however, at the same time that the banking system keeps money cheap the government adopts a policy of public works, the risk of failure is greatly reduced" (p. 213).

In more than one place Professor Pigou examines the effects of giving a subsidy to employment. His findings are on the whole favourable to the expedient. The most satisfactory method of using it would be to confine the subsidy to additional employment given in a certain period. He gives weight to the administrative difficulties connected with this method. In view, however, of the fact that economic experiments of doubtful merit in principle and of the most serious administrative difficulty are making and

likely to continue to be made in this and other countries, it seems a pity that more serious public attention is not given to this particular expedient

The *Theory of Unemployment* is a rich storehouse containing many and various treasures. It has only been possible to give some hints about a few samples of all that lies therein. Anyone who devotes patience and effort to exploring it will reap abundant profit

R. F. HARROD

*Christ Church,
Oxford.*

[*Note*—Prof. Pigou has asked the Editors to take advantage of this opportunity to make it known that he has prepared a printed slip of misprints in his *Theory of Unemployment* which have come to light since publication, and that the publishers, Messrs Macmillan & Co., St Martin's Street, London, W.C.2, will on application supply any owner of this book with a copy of this slip without charge.]

THE NATIONAL EXPENDITURE, 1932

IN the ECONOMIC JOURNAL for March 1931, the present writer endeavoured to make an approximate allocation of the average annual National Income for the period from 1924 to 1927 amongst the chief groups of expenditure. Information is now available which makes it possible to attempt a similar estimate for the year 1932. Besides the preliminary reports of the Fourth Census of Production (1930), there are various publications of the Ministry of Agriculture, the Department of Agriculture for Scotland, and the Empire Marketing Board, which collect together production and trade statistics for the principal food-stuffs and furnish new details upon the basis of which estimates of the final consumer's expenditure can be framed with greater confidence both for the earlier period and for 1932.¹

As in the previous paper, expenditure has been analysed below under the main headings: food, maintenance of the home, clothes, direct taxation, liquor, smoking, travel, entertainments and sport, sickness, accidents and state insurance, religion, reading, miscellaneous expenditure, and saving. The figures previously given have been revised and adjusted where necessary.

Food

Using figures of total supplies taken from the above sources or from the trade returns, and information regarding retail prices collected by the Empire Marketing Board or taken from numerous multiple and department stores lists issued in various parts of the country, the following table has been constructed. It shows the total expenditure upon each of the principal items of food during the year 1932, and the annual average for the period 1924-27. The amount available of each commodity per head of the population at each period is also given.

¹ The principal publications used are the weekly *Agricultural Market Report* of the Ministry of Agriculture, the *Report on the Marketing of Live stock in Scotland* (Scottish Department of Agriculture), *Fruit Supplies in 1932*, *Dairy Produce Supplies in 1932*, and various retail survey reports (Empire Marketing Board).

TOTAL AND PER CAPITA CONSUMPTION OF FOOD AND RETAIL VALUE, 1924-27 AND 1932

Commodity	Average 1924-27		1932		Per Capita Consumption	
	Total Consumption	Retail Value £m	Total Consumption	Retail Value £m	1924-27	1932
Beef and Veal	1,398 thous. tons	140	1,292 thous. tons	106	99½ lbs	92½ lbs
Mutton and Lamb	514 "	47	520 "	54	25½ "	20½ "
Pork	416 "	47	426 "	50	22½ "	30½ "
Bacon	416 "	47	50 "	8	4 "	8 "
Ham	250 "	16	288 "	32	12½ "	14 "
Pork	250 "	40	288 "	32	12½ "	14 "
Lard	171 "	16	175 "	12	8½ "	7½ "
Rabbits	40 "	2	40 "	2	2 "	6 "
Poultry	725 m gals.	12	100 m gals.	17	32 "	18 "
Milk	300 thous. tons	65	435 thous. tons	38	16 gals	21 "
Butter	188 "	25	198 "	31	12 "	9 "
Margarine	188 "	25	198 "	31	12 "	9 "
Cheese	188 "	25	198 "	31	12 "	9 "
Eggs	5,073 m	4	6,960 m	46	113 eggs	150 eggs
Other products	4 m gals	4	4½ m gals	3½	3 pint	3 pint
Condensed Milk	159 thous. tons	6	200 thous. tons	6	8 lbs	9½ lbs
Bread	1,690 m 4-lb loaves	6½	1,720 m 4 lb loaves	42	37 4 lb loaves	37 4-lb loaves
Fish	829 thous. tons	65	911, thous tons	59	40½ lbs	44½ lbs
Sugar	1,655 m lb.	31	1,909 m lb.	51	84 "	92 "
Tee	420 thous. tons	6	465 m lb.	39	9½ "	10 "
Coffee	160 "	6	17 thous. tons	44	34 "	34 "
Cocoa	2,092 "	45	2,092 "	71	34 "	34 "
Flour	1,570 "	12½	2,200 "	97	98 "	97 "
Pastry	776 "	44	720 "	122	106 "	106 "
Other vegetables	40	40	411	137	137	200
Total value of primary products, etc.	197	954½				
Add for preparation of meals at home	107½	100				
Add for service in hotels and restaurants	50	53				
Total expenditure upon food	1,107	1,107				

The information collected by the Empire Marketing Board regarding the retail prices of different varieties of many of the principal food-stuffs makes it possible to estimate the expenditure upon these commodities much more closely than in the previous paper.

The following details of the more important items and of the method of making the estimates may perhaps be given.

Meat—The report of the Linlithgow Committee (1923) provides some guidance as to the proportion of the whole carcase represented by the principal cuts. The retail prices of the various joints have been weighted accordingly and due allowance made for the fact that London prices are higher than provincial prices and that London consumes a lower proportion of home-killed meat. The total for beef and veal is made up as follows: London, home-killed, £8 m, imported, £11 m, provinces and Scotland home-killed, £50 m, imported, £37 m. For mutton and lamb, details for the country as a whole are: home-killed, £28 m, New Zealand, £16 m, other kinds, £10 m.

As regards pig-meat, the total home production for 1932 is taken at 350,000 tons and divided as follows in accordance with information contained in the report of the Pig Reorganisation Committee (1933) and the Census of Production: bacon, 60,000 tons, hams, 15,000 tons, and fresh pork, 275,000 tons. This new information necessitates a redistribution of the home pig-meat production for the period 1924–27 as follows: bacon, 45,000 tons, hams, 13,000 tons, and fresh pork, 197,000 tons.

Poultry—The total consumption of poultry rose from about 38 m birds in 1925 to about 60 m in 1932. The Christmas turkey trade in 1932 had a total retail value of about £2 m.

Lard and Margarine—Both home production and imports of lard have fallen in recent years. The former for 1932 is taken at 35,000 tons.

Net imports of margarine, which averaged 60,000 tons in 1924–27 with a value at the ports of over £4 m, had fallen to a negligible quantity by 1932. Home production was 184,000 tons in 1924 and 202,000 tons in 1930, but there was a small reduction in 1932. In that year also the retail price fell considerably.

Milk—From the quantity of milk sold off farms 17 per cent has been deducted to allow for milk sold to factories. A similar adjustment has been made for the period 1924–27. For 1932 the retail price is taken at 2s 1d per gallon.

Butter—Appropriate retail prices have been applied to the estimated supplies of farm, blended, and the various kinds of

imported butter. A recalculation of the 1924-27 figure on this basis indicates that the previous estimate was too low.

Cheese—During recent years there has been a rapid increase in the consumption of processed cheeses, and for 1932 the quantity was probably about 26,000 tons, or nearly one-eighth of the total consumption of cheese. This quantity has been brought into the estimate at 1s per lb. above the retail prices ruling for other cheeses.

Eggs—Not only has the total consumption of eggs risen as shown in the table, but a better type of egg is being eaten. Of the total in 1932, 65 per cent. consisted of home-produced eggs, as against only 45 per cent. in 1924-27.

Bread and Flour—The figures for bread are based upon the Census of Production returns. Calculations published by the Royal Commission on Food Prices (1925) suggest that at that period about one-half of the total supply of flour went to make bread. The estimate previously given for flour has been adjusted accordingly. In 1932 the total supply of flour was about the same as at the earlier period, but rather more than one-half of it must have gone to make bread. Of the balance an increased quantity went into biscuits and cakes, and the consumption of flour in the home must therefore have diminished considerably.

Fish—There are in Great Britain five fried-fish shops to every two wet-fish shops, and a very large part of the total supplies of cod, haddock, hake, plaice, skate, catfish, dogfish and eel is used in the fried-fish trade. Information collected by the Empire Marketing Board suggests that in 1932 the expenditure upon fried fish was about £30 m., upon wet and dried fish about £22 m., and upon canned fish about £7 m.

Sugar—The very considerable increase in the consumption of sugar is probably accounted for to a considerable degree by the increased consumption of canned and bottled fruits.

Fruit—During the past seven years the consumption of apples has averaged about 23 lbs. per head per annum. The consumption of oranges increased from 19 lbs. per head in 1926 to 24 lbs. in 1931, but fell back to 22 lbs. in 1932. The consumption of bananas rose from 10 lbs. per head in 1926 to 12 lbs. in 1932.

Retail expenditure in 1932 amounted to about £25 m. upon apples, £18 m. upon oranges, £12 m. upon bananas, £10 m. upon pears, £10 m. upon grapes, £11 m. upon canned and bottled fruits and £13 m. upon dried fruits.

Vegetables—The figure for the total consumption of potatoes in 1932 allows for a substantial carry-over of the heavy 1932 crop to 1933.

Tomatoes are estimated to have been worth in the shops, after allowing for waste, £11 m, and onions £4 m. The remainder of the fresh vegetables are brought in, very roughly, at £20 m, a reduction of 20 per cent upon the figure for 1924-27. No quantities or recent official valuation are available.

The fall in expenditure upon fresh vegetables is partly offset by a considerable increase in expenditure upon canned vegetables, which, in 1932, probably had a retail value of £5 m.

Prepared Food-stuffs—An addition to the value of the sugar, fruit, flour, cocoa, ham and other commodities is necessary to allow for the preparation from these commodities of such things as confectionery, cakes, biscuits, jams and cooked meats. A careful examination of the net outputs of the industries concerned as revealed by the Census of Production suggests that £107 m should be added for 1924-27 and £100 m for 1932, an allowance being made in the latter case for a slight fall in the value since 1930.

For cooking and service in hotels and restaurants 50 per cent is added to the value of 10 per cent of the food.

MAINTENANCE OF THE HOME

Rent, Rates and Repairs—It may be estimated from statistics in the Ministry of Health reports that there was a net increase in the total number of houses between 1925 and 1932 by about 1,100,000, and that this made an addition of about £33 m to the total annual value. Rather more than 40 per cent of the pre-control houses had now become decontrolled, and if the rental of these is taken at 100 per cent above the pre-war value, a further addition of £52 m is necessary. Mortgage interest in excess of annual value may still be taken at £10 m, and the additional rental of sublet houses at the same figure. These various sums, added to the estimated value of all the houses upon a control basis at the earlier period, which was £176 m, make a total for rent and repairs in 1932 of £281 m. The increase in the number of houses and in the total receipts from rates suggest that for rates upon dwelling-houses about one-eighth should be added to the previous figure, making £82 m. Thus the total for rent, repairs and rates is £363 m.

Coal—From statistics given in the Mines Department Report and the Census of Production returns the domestic consumption of coal in 1930 may be estimated at about 37 m tons. There will have been little change in 1932, and the average retail price may be taken at 35s per ton, giving a total value of £65 m.

Gas—The total sales of gas in 1930, according to the Census

of Production, were 309 m thousand cubic feet, and the reports of the chief gas companies suggest that in 1932 the figure was about the same. In view of the depression it seems reasonable to take no more than 10 per cent as used industrially. Deducting a further 10 per cent as being used in shops and offices and taking the balance at 4s 7d per thousand, including fittings, the total value becomes £57 m.

Electricity—From the value according to the Census of Production of the current sold for heating, lighting and domestic purposes 20 per cent is deducted for use in shops and offices, leaving £23 m as the value of domestic consumption in 1930. The increased total output of current since that date suggests that the figure for 1932 was about £26 m.

Candles, Paraffin, Wood and Matches—These together now total about £4 m.

Radio—The number of wireless licences in 1932 was 5 millions costing £2½ m, and the upkeep of the sets must have raised the total cost to about £10 m.

The amount of £65 m taken in the previous paper to cover the remaining household expenses was composed of a large number of small items which cannot possibly be investigated separately. The Census of Production showed a fall by about 25 per cent in the value of hard soap production, which is the most important item (Census figure £10 m), and other common household requisites have fallen similarly. On the other hand, soap flakes and powder have to some extent been substituted for hard soap and also the number of families has increased by about 2½ per cent. Taking these factors together perhaps a total of £55 m may be taken for this item.

Total for Maintenance of the Home £580 m

CLOTHES

While the estimates of expenditure upon the various items of food can be put forward with some confidence, those for clothes have necessarily a much wider margin of error. The only available basis is provided by the Census of Production values to which must be added some reasonable percentage to cover intermediate and retail costs and profits. In the absence of any reason for changing them the same percentages have been used for 1932 as for the period 1924–27.

The figure for the total output in 1930 of the firms making returns in the Census has for each item been adjusted, with the aid of information contained in the reports, to allow for the

small firms and for returns not yet received Provision has been made for the change, if any, in physical output and for the fall of prices between 1930 and 1932, by increasing or reducing the 1930 figure in proportion to the change in the number of insured workers employed in the respective clothing industries and also in proportion to the fall in the Ministry of Labour's retail index-number for clothing

The 1930 Census did not cover laundry, cleaning and dyeing, and the figure given for these in 1932 assumes a reduction of 20 per cent in the charges since 1924-27

Calculated in this manner, the retail expenditure upon clothing for the two periods may be set out as follows

	1924-27	1932
Tailoring, Dressmaking, and Millinery	£m 207	£m 130
Home and private making	20	16
Hosiery (including fabric gloves)	80	63
Boots and Shoes	72	49
Repairs thereto	10	7
Hats	33	24
Umbrellas and Sticks	5	3
Gloves, other than fabric	4	5
Laundry, Cleaning, and Dyeing	21	17
Total for Clothes	452	314

DIRECT TAXATION

The actual receipts from direct taxation in the calendar year 1932 totalled £423 m In the first quarter, however, specially heavy collections of income and sur-tax were made as the result of a special appeal Some part of these payments came undoubtedly from savings made in anticipation out of 1931 income To obtain a more reasonable figure to charge against 1932 income, the mean between the above sum and that collected in the financial year 1932-33 has been taken, namely £406 m The average sum actually paid in the calendar years 1924-27 was £385 m

LIQUOR

The estimates made by Mr G B Wilson for the Temperance Council show that the expenditure upon alcoholic liquor in 1932 was about £232½ m as against an average of £308 m during the period 1924-27, a reduction by £75½ m, or nearly 25 per cent Of this saving, however, about £26 m was at the expense of the Exchequer, which recouped itself by increasing other taxes

The fall in the actual net expenditure upon liquor may be taken at £50 m. The total consumption of absolute alcohol fell by 31 per cent, and the average consumption per head from $9\frac{1}{2}$ to $6\frac{1}{2}$ pints per annum.

SMOKING

According to the Census of Production the average amount of manufactured tobacco available per head of the population increased from 3 lbs in 1924 to $3\frac{1}{2}$ lbs in 1930. The value, including duty, of the home-consumed output in 1930 was about £109 m. Adding, as before, 25 per cent to arrive at the retail value we obtain £136 m.

The standard rate of duty was raised from 8s. 10d. to 9s. 6d. per lb. in 1931, and in 1932 the profits of the Imperial Tobacco Company decreased by £11 m., the chairman stating that the turnover had been slightly lower. Offsetting the increase of duty, which was estimated to yield £4 m. against the slight fall in consumption, we may take the expenditure at the same figure as for 1930, £136 m., compared with £110 m. in the earlier period. The increase is mainly in expenditure by women smokers, who, for some years will probably increase in numbers, non-smokers being at present chiefly amongst the older women.

The Census of Production showed an increase in the consumption of matches per head from 56 boxes in 1924 to 61 boxes in 1930. It seems probable that a considerable part of this increase remained in 1932, and accordingly £7 m. is taken as the value of matches used by smokers.

TRAVEL

After deducting 10 per cent. as chargeable to business expenses, expenditure in 1932 upon travel on the main railways amounted to £58½ m. as compared with £72 m. in 1924-27. Coaches and buses also received £58½ m. in 1932, and when underground and tram fares are added, the total expenditure upon travel in public road conveyances is £99½ m. as compared with about £70 m. in the previous period.

Expenditure upon private cars and motor cycles was over-estimated for 1924-27. On the average during that period there were on the road 550,000 cars and about the same number of motor cycles. In 1932 there were 1,100,000 cars and 600,000 motor cycles. About 25 per cent. of the expenditure upon cars has been taken as chargeable to business expenses. Expenditure

upon motor cycles in the main comes from income. On this basis estimates for the two periods may be made as follows :

	1924-27	1932
	£m	£m
Licence duty	8	12
Insurance	6	11
Garage	10	16
Petrol	14	19
Repairs, Tyres, Oil etc	6	10
One sixth of capital cost	24	31
Total for Private Vehicles	68	99
Main Railways	72	58½
Coaches, Buses, and Underground	70	99½
Pedal Cycles	5	4
Total for Inland Travel	215	261

Owing to the imposition in 1929 of the tax upon petrol, now yielding about £30 m, a larger proportion of the total expenditure upon travel in 1932 went to the Exchequer, and the increase in the net cost was probably no more than £21 m.

ENTERTAINMENTS AND SPORT

The actual yield of entertainments duty in 1932 has not yet been published, but the 1932 estimate was for £9½ m. The total amount paid for admission would be about six times this figure, or £57 m.

As regards horse-racing, the number of horses in training is still about 5,000, and the total cost of horse-racing (including betting, but apart from admission to courses, which is covered above) may still be taken at about £7½ m. Greyhound racing, and the net amount left in the Irish sweepstake fund, however, must now be added, and from statistics given in the reports of the Lotteries and Betting Commission these may be estimated at about £5 m.

There has been no substantial change in expenditure upon games and upon the minor sports, which may be taken as before at £10 m and £2½ m respectively, making a total for this group of £82 m.

SICKNESS, ACCIDENTS, AND STATE INSURANCE

Voluntary hospitals had an income of £15 m in 1931,¹ and there is no reason to suppose that there was any substantial change in 1932.

Doctors' and Dentists' Fees—In estimating the figure for

¹ *Hospitals Year Book*, 1933

1924-27, too large a deduction was made for receipts from the State for panel patients, and the net figure should have been £30 m. During 1932 the average income was probably slightly lower, but this may reasonably be offset against an increase of numbers and the same figure taken.

Drugs—The Census of Production for 1930 showed very little change in the value of the output of drugs, and for 1932 the figure may again be taken at £21 m.

Health Insurance—Employees' Contributions—A proportion of the contributions paid in connection with the contributory pensions scheme which came into force in 1926 should have been added to the 1924-27 figure, making it £16 m. For 1932 the combined health and pensions contributions amounted to about £21 m.

Unemployment Insurance—Employees' Contributions—These amounted in 1932 to £19 m.

Total for this group, £106 m.

RELIGION

The endowment income of the established churches of England and Scotland for 1932 was slightly higher at £9 m. But the voluntary offerings for all purposes have fallen considerably and amounted to only about £10 m. The offertory receipts of other denominations have also fallen, but not in proportion and may be taken at about £14 m, making the total expenditure under this heading £33 m.

READING

Newspapers and Periodicals—The Census of Production output for 1930 amounted to £54 m, of which, on the basis previously adopted, £32 m was advertising revenue, leaving £22 m from sales. Advertising revenue fell considerably between 1930 and 1932, but sales remained about the same. The addition of 50 per cent as before makes the retail value £33 m.

Books—This item was placed too low in the previous estimate. About 100 per cent for selling cost should be added to the Census value of book production, making a total of £14 m both for 1924-27 and also for 1930. The same figure may be taken for 1932.

Total for Reading, £47 m.

MISCELLANEOUS EXPENDITURE

Of the increase by some £13 m in Post Office revenue it is reasonable to suppose that about £6 m came from private persons,

chiefly for telephone services. Total retail expenditure upon gramophone records had increased in 1930 by about £5 m and upon cosmetics by about £2 m. On the other hand, fancy goods had fallen by about £3 m, jewellery by £2 m, and subscriptions to trade unions by £1½ m, while in 1932 there is no doubt that expenditure upon foreign travel and upon holidays was reduced. Taking all items together there seems good reason for allowing the miscellaneous figure to stand at £150 m.

SAVING

In my previous paper the average annual amount of saving during the period 1924–27, including the purchase of new houses and furniture, was put at the round figure of £400 m. It is exceedingly difficult to make a trustworthy independent estimate of the sum “saved” from income during any period after consumption expenditure has been met. There is a temptation to commence with the total amount of new issues of securities for cash (averaging £256 m. in 1924–27), but here is a fruitful source of error, for a great part of the money subscribed for new securities is spent in purchasing old businesses and other existing assets, and although the sellers of these assets are likely to regard the purchase money as capital and not to spend much of it upon consumption goods, yet they, or someone to whom they transfer the money, may use it to subscribe for a subsequent new issue during the year. In such a case the same funds are counted twice in the total of new issues. Of the above-mentioned figure, however, £113 m. was subscribed to be sent abroad and may fairly be taken as new saving.

Next there is the amount set aside by companies out of profits. Sir Josiah Stamp has estimated the amount allocated to company reserves at £100 m. for 1928.¹ Mr. Colin Clark puts the average figure of undivided profits for 1924–27 at £161 m.² An unknown portion of these reserves will have been invested outside the businesses concerned and will thus have provided some of the funds for new issues of securities.

The average net expenditure upon new houses, after deducting State subsidy and the amount borrowed for housing by local authorities, may be estimated, from information in the Ministry of Health reports, at about £72 m. Much of this was undoubtedly new savings obtained through building societies, but some will have been realised by the sale of securities, the buyers of which

¹ Address to the Royal Statistical Society, November 1930.

² *The National Income*, 1924–31.

may or may not have paid for them with new savings. There is good ground for regarding furniture as well as houses, as consumers' capital, and it may be estimated from Census of Production figures that this accounted for an average of £22 m. in this period.

Another item is the expansion of private businesses, but the total capital value of these in 1928 was estimated by Sir Josiah Stamp at only £350 m., and the annual increase can scarcely have been more than about £5 m. Then, according to the Macmillan Committee, deposit balances at the banks increased by an average of £20 m. per annum, and the banks sold to the public from their own holdings an average of £35 m. of securities which they replaced with short-dated investments. A considerable portion of both of these sums probably came from new savings. Life assurance premiums, an important original source of savings, may be neglected, since the bulk of them will have flowed into one or other of the above channels. Against all these items must be set an average of £42 m. released to the investment market by the repayment of National Debt out of taxation, the net total being either £468 m. or £529 m. according to the amount taken as allocated to companies' reserves. But these totals make no allowance for overlapping amongst the items.

Mr. Cohn Clark estimated the average net cost of new investment in this period, after allowing for repairs, renewals, and depreciation of existing capital, at £378 m., or £400 m. if we include the £22 m. for furniture mentioned above, which is not covered by his figure. For various reasons the amount of saving in any year is not necessarily the same as the net cost of new investment. But since the average of four years is in question here the discrepancy is probably not great. Perhaps, therefore, the figure of £400 m. may reasonably be taken for the average annual saving in the years 1924-27.

As regards 1932, new issues of securities for cash amounted to £189 m., but the banks took from the market a total of £227 m., so that the public held £38 m. less of securities at the end than at the beginning of the year. Bank deposits increased by about £297 m., but of this £38 m. came from purchases of securities by the banks, and £176 m. from repayments of War Loan, leaving a net increase of £83 m. In view of the very small net change in prices, in production, and in bank clearings it may perhaps be assumed that the whole of this increase was in savings deposits. Allocations to company reserves seem to have been about one-third as great as in 1924-27, or, say, £30-55 m. The net expendi-

ture upon new houses, calculated in the same manner as before, was about £93 m, and upon furniture about £25 m. Extension of private businesses was negligible. The total of these items is £231-256 m, but again they probably overlap a good deal. Mr. Colm Clark's estimate of the net cost of new investment was only £81 m for 1932, which with our furniture item makes £106 m. This, however, does not include money "hoarded" in bank deposits, which was undoubtedly substantial, and there seems to be good reason for putting the amount of income not spent upon consumption goods and services at about £200 m.

We can now collect together all the expenditure items for both periods in the following table.

ANALYSIS OF THE NATIONAL EXPENDITURE FOR THE AVERAGE
OF THE YEARS 1924-27 AND FOR 1932

	1924-27		1932	
	£m	Per cent of total	£m	Per cent of total
Food	1,239½	30½	1,107½	30½
Maintenance of the Home	513	12½	580	15½
Clothes	452	11½	314	8½
Direct taxation	385	9½	406	11
Liquor	308	7½	232½	6½
Smoking	116	3	143	4
Travel	215	5½	261	7½
Entertainments and Sport	85	2	82	2½
Sickness, Accidents and State Insurance	93	2½	106	3
Religion	42	1	33	1
Reading	44	1	47	1½
Miscellaneous Expenditure	150	3½	150	4
Saving, including new houses and furniture	400	10	200	5½
Total	4,042½	100	3,662	100

In order to arrive at a figure of net social expenditure comparable with estimates of the net social income, such as those of Mr. Colm Clark, it is necessary to deduct from the gross totals above all items which represent mere transfers of income, as distinct from real expenditure upon goods and services. For the period 1924-27 the averages of these were as follows: National Debt interest £279 m, unemployment benefit £45 m, health benefits £19 m, poor relief £47 m, war pensions £60 m, old age pensions £27 m, and contributory pensions £5 m. These deductions, totalling £482 m, leave an average net social expenditure for 1924-27 of £3,560½ m, which compares with Mr. Clark's figure of about £3,714 m. For 1932 the corresponding

deductions, which amount to £567 m, leave a net expenditure figure of £3,095 m, which compares with Mr Clark's £3,392 m. Thus my total is £153½ m less than his for the earlier period and £297 m less for 1932. Mr Clark's calculations all start so far as the figure for net social income is concerned, from estimates based partly upon income tax statistics. A figure of total expenditure built up item by item must always fall short of any estimate of the national income which depends upon income tax figures. As is well known, there are many expenses incurred and many charges against income which a prudent accountant will make which are not allowed as deductions for income tax purposes. Here is one cause of difference, though it is hardly sufficient to account for the discrepancy of £297 m in 1932. It has been suggested in the *Economist*¹ and elsewhere that Mr Clark's estimate of the fall of income since 1929 is rather too small.

If the increase of £85 m in the total of transfer incomes is taken out of the expenditure items, the fall in net social income (£465½ m) appears to have been balanced on the expenditure side approximately as follows: reductions amounting to £140 m upon food, £147 m upon clothes, £50 m upon liquor, £3 m upon entertainments and sport, £9 m upon religion, a fall of £200 m in saving and of £42 m in the amount applied to National Debt reduction, these decreases being offset by increases of £58 m upon maintenance of the home (chiefly due to better housing), £15 m upon smoking, £21 m upon travel (mainly private cars and motor coaches), £3 m upon reading, and £28½ m upon central and local government services other than mere transfers of income.

When we turn, however, from nominal expenditure and consider the real consumption of goods and services which lies behind, a completely different position is disclosed. The fall in expenditure upon clothing is mainly, though not entirely, accounted for by a fall of prices, most of which occurred between 1930 and 1932. There are no complete figures available for the quantities of clothing produced, but the slight fall (1.6 per cent) in the number of persons employed in the clothing industries, coupled with the increase of population, indicates that the nation as a whole was rather worse dressed in 1932 than at the earlier period. On the other hand, there was undoubtedly a remarkable improvement in the food supply. As the table at the commencement of this paper shows, during 1932 the average person consumed appreciably larger quantities of several of the more important food stuffs.

¹ October 21, 1933.

Though he ate less beef, he more than made up for it with mutton, lamb and bacon, and his total consumption of meat increased by 6 per cent. He ate 33 per cent more eggs, 10 per cent more sugar, and drank 15 per cent more milk. His consumption of poultry, cream, fish, cocoa (mainly as chocolate confectionery), fruit and potatoes all increased, and for margarine and lard he to a considerable degree substituted butter. On the other hand, although he ate considerably larger quantities of biscuits and cakes from the shop, his consumption of bread showed no change, and his consumption of home-made puddings and pastry was definitely lower. In short, he moved away from the staple bread-stuffs in the direction of a more varied diet, tending at the same time to substitute factory preparations for home-cooked food. Furthermore, alongside this increase in food consumption, and perhaps not unconnected with it, there went a fall by nearly one-third in the consumption of alcohol.

In a few cases the apparent increase of consumption may be partly accounted for by an increase of waste, which often occurs when prices fall. But the improvement in the average diet in the year of deepest depression as compared with the position seven years earlier is beyond doubt. The drawbacks of our dependence upon imported food are often pointed out, but in the past two years the much lower level of food prices compared with the prices of manufactured goods has been one of the principal reasons for the comparatively happy position of this country. One wonders what might have happened in some of the depressed areas of Great Britain had this cheap food not been available.

A. E. FEAVEARYEAR

THE CANADIAN MACMILLAN COMMISSION

*Report of the Royal Commission on Banking and Currency
in Canada* (Ottawa King's Printer, 1933 Pp 119
50 cents)

THERE have been Royal Commissions on such specific matters as individual bank failures, and many parliamentary committees on Canadian banking and currency in general, but this is the first Royal Commission ever appointed to consider certain broad aspects of the Canadian banking and currency system. Its findings, therefore, have something more than the usual interest. Although the terms of reference given to the Commission included all aspects of the Canadian monetary system, the Commission considered that its main problem was in connection with the desirability of establishing a central bank.

The Commission consisted of Lord Macmillan, Sir Charles Addis, Sir Thomas White, Mr J E Brownlee, and Mr Beaudry Leman. Lord Macmillan was the Chairman, and no comment on this eminent jurist and public man is necessary, the Macmillan Report has made his name known to all interested in monetary matters. Sir Charles Addis is also well known and esteemed through his accomplishments in fields of banking and international finance. Sir Thomas White is known as Canada's famous war-time Finance Minister. Since his voluntary retirement from public life in 1919, he has been engaged in the financial world though a lawyer by training--and is a director of the Canadian Bank of Commerce and vice-president of the National Trust Company (Toronto). Mr Brownlee is also a lawyer and for the past several years has been the able and respected Prime Minister of Alberta. Mr Beaudry Leman, an engineer by profession, has been in active banking work for many years and is now manager and vice-president of the Banque Canadienne Nationale, one of the two French-Canadian banks. Mr B J Roberts of the Department of Finance, and Mr A F W Plumptre, of the University of Toronto, acted as secretaries.

The Commission met in Ottawa early in August and after a brief organisation session, proceeded to Victoria, B.C. It then crossed the continent to Halifax, holding public hearings in all

the main cities. Some private sessions were also held with various provincial governments, presumably upon technical aspects of provincial finance. Any individual or organisation wishing to do so could give evidence, and a great number of both availed themselves of the opportunity. Although district officers of the banks were heard at many centres, the final sessions, held in Ottawa, were given exclusively to the banks. Approximately 800,000 words of evidence—which, it is understood, are not likely to be printed—were taken and all points of view were represented.

The first chapter of the Report is a brief introduction to the problems facing the Commission. Chapter II gives a concise historical sketch of the Canadian financial system—Dominion note issue, banks and the other different financial institutions—while the third chapter describes their operations. The fourth chapter analyses the Canadian economic and monetary structures, and is really the beginning of the analytical section which leads up to the Commission's conclusions. Chapter V carries the analysis further, and discusses the general nature and functions of central banks, and their application to Canada. These two chapters contain the analysis upon which the Commission's conclusions respecting the establishment of a central bank are founded. Chapter VI deals briefly with agricultural credit, and Chapter VII with certain minor problems in banking practice. Chapter VIII is a brief summary, with the recommendation that a central bank should be established. This concludes the report proper, which all the members of the Commission signed.

An addendum by Sir Thomas White disagrees with some of the analyses made in Chapter III, mainly on the theory of the creation of bank deposits. There is also a memorandum of dissent by Sir Thomas White, in which he disagrees with the recommendation for a central bank. Mr. Leman has a memorandum of dissent on the same point, and so, in effect, the establishment of a central bank is recommended by three to two. Mr. Brownlee has a memorandum (not headed as that of dissent) in which he elaborates his views on certain points of interest to the Canadian West—interest rates, bank profits and bank directorates. He also enters objections to the form of the central bank suggested in an appendix. The first appendix is headed "Suggestions as to Some of the Main Features of the Constitution of a Central Bank for Canada," and is in summary form. Further appendices contain statistical tables. It might be added that the Report is profuse with statistical matter, much of which was

available before, but some accessible to the public for the first time

Before starting to comment upon the main conclusion of the Report—the establishment of a central bank—the minor conclusions may be touched on briefly. The Commission recommended that the problem of agricultural credit should be investigated further with the aim of getting a comprehensive scheme developed. No one can seriously object to this recommendation, although agricultural credit has been investigated often enough in Canada that some action should be possible. The Canadian Bank Act has a section which is intended to restrict the bank discount rate to 7 per cent. It is so worded, however, that it is legally evaded and is not completely effective. Four of the Commissioners recommended the repeal of this section, Mr. Brownlee was in favour of its retention. The section is probably not of great economic significance, although it is strongly favoured in the rural areas, particularly in the West. Another point arose in connection with the exchange charges on out of town cheques. The Commission suggested that the banks might forgo this charge and obtain their compensation in other and less irritating ways. This suggestion, not a recommendation, will doubtless not be accepted by the banks, although there is a great deal to be said for it. The investment bankers had hoped that the Commission would make a pronouncement against the practice of the chartered banks dealing in and distributing securities. The Report discusses the matter and merely suggests that the chartered banks should deal only in the highest grade of bonds. This hardly meets the hopes of the bond dealers, and considerable disappointment has been expressed by them at the neutral tone of the Commission. A number of other points were touched upon, but they are of lesser general interest.

Before proceeding with the analysis of the main aspects of the Report, it may be well to summarise briefly the structure of the Canadian monetary system. In 1914, before the changes consequent upon the war were made, the Government currency and the banking system made up the monetary system. The subsidiary coinage calls for no comment. The Government note issue, termed the Dominion note issue, was, with gold, the legal money of the country, and was issued on a basis of a certain basic "free" issue, the balance covered by a one hundred per cent reserve in gold. The Dominion note issue functioned in an automatic way—the Department of Finance changed notes for gold and gold for notes—and the growth of the issue was

dependent on the acquisition of additional gold stocks" (paragraph 182) Although the actual proportions have changed, this principle has been in operation from federation to the present time The banks are both savings and commercial banks, and have the right of "free" note issue up to the amount of their paid-up capital, issue beyond this is possible under certain conditions—depositing legal money or paying a tax during certain months There was, of course, no central bank, or any similar institution

The Report describes the situation as follows

183 As there were then no rediscounting facilities or anything of a similar character within Canada, there was no way by which the banking system could, within Canada, quickly increase its cash reserves It was thus forced to rely upon its quick assets realisable outside Canada

184 Each bank extended or limited credit in light of its position in terms of cash within the country and claims on cash without The fundamental consideration of a bank was always to keep its position sufficiently liquid to meet all the cash demands made upon it On the Canadian banking structure as a whole the main demands for cash, apart from domestic seasonal needs, were for meeting external requirements The ability to meet this demand implied the ability to maintain the gold standard

This monetary system was thus "automatic," and functioned well in the pre-war world

In 1914 the Finance Act was passed, and has been in effect ever since It permitted the Department of Finance to advance Dominion notes—legal money—to the banks upon the deposit of satisfactory collateral, mainly high-grade bonds This process was in effect re-discounting No provision for, or reference to a gold reserve is contained anywhere in this Act The operations under this Act—operations which were essentially central banking in character—were carried on by an administrative director of the Government Thus, the advent of this Act changed entirely the automatic nature of the system

The immediate problem of the Commission was to decide whether this system should be carried on or if some change should be made Although the Finance Act served admirably as an emergency device, its long-run merits were seriously questioned, and Canadian economists were generally agreed that it was decidedly unsatisfactory as a permanent measure Even

the bankers—who in general approved of it—were in some cases willing to admit that some change could be made with benefit. And so the continuance of existing machinery without any change was hardly a serious possibility. The matter then became one of the form and direction of the change.

Three possible lines of change were mentioned. The first—that of repealing the Finance Act and having no rediscounting mechanism—was not seriously considered. The bankers, having become accustomed to the use of re-discounts, felt that a return to the 1914 situation was undesirable. It is also probable that the absolute size of the Canadian balance of payments is now so much greater than before the war that the same decentralised machinery could not work in the apparently strainless way that it did then. The flow of foreign capital into Canada was also an important factor in the pre-war system. In any case, there was little opinion in favour of returning to the decentralised pre-war system.

The second possibility—advanced by the bankers mainly—was that the Finance Act might be adapted to present conditions and its administration placed in the hands of a representative Board appointed by the Government. The majority of the Commission rejected this—Sir Charles Addis is reported to have termed it the “fifth wheel to the coach”—on the basis that either it did not have sufficient power to do its job properly, or if it did, it became in effect a central bank. This conclusion appears quite sound. One cannot help feeling that the bankers were boggling at the name—central bank—as much as at the thing itself.

The majority of the Commission was thus forced to the logical conclusion that it was desirable and necessary to establish a central bank. Chapters IV and V contain the analysis which leads to this conclusion, and, in general, one must agree with this analysis. There are, however, certain points—particularly with respect to the note issue—at which the “orthodox” view on central banking coloured the analysis and is of doubtful validity. This, however, will be discussed later. In general, one agrees thoroughly with the recommendation of the Report and most of the analysis leading to it.

The memoranda of dissent filed by Sir Thomas White and Mr. Leman are not convincing. They do not meet the vital point—that some central institution of prestige, not merely a departmental or public committee, must be in control of the monetary standard of the country. Sir Thomas White's reasons for opposing the establishment of a central bank were, that

dislocation to the system may occur, that international monetary conferences and action are of uncertain merit, that control of the price level is questionable and that other countries having central banks is no argument for one in Canada. The irrelevancy of these points to the main issue can be seen. Mr Leman raised the constitutional problem—which is of doubtful validity here, but is ever present in any Canadian problem—and added that the time was inopportune for establishing a central bank. These points are also not germane to the main problem and do not begin to meet the logical analysis advanced by the majority of the Commission. Both of these commissioners—on the assumption of a central bank being established—raised certain points about its form which will be dealt with later.

Agreeing, then, with the main conclusion in favour of establishing a central bank, the other important matter is its structure and functions. And here there are certain points made in the suggestions in the appendix with which agreement is difficult. The suggestion is that the stock of the central bank should be held by the public, that the first set of directors be appointed by the Government but afterwards (by implication) elected by the shareholders, that the first governor and deputy governors be appointed by the Government, and that afterwards such officers be appointed by the directors, subject to the approval of the Government. This in effect means a private institution (with a limited dividend rate) with only such direct Government control as approval of the selection of the executive officers implies.

There is no objection to individuals supplying the capital for the bank if at the same time they have little control over the directors and management. In fact, the capital of the bank—its source and amount—is of relative insignificance, the important thing is the control of the bank. Doubtless the point of the suggestion in the Report is to give the central bank a sufficient degree of independence that it could carry out its functions efficiently. There is no doubt that an efficient central bank needs a degree of independence from its Government, but it is doubtful if such a device as this is, on balance, suitable for this purpose. The Bank of England and its traditions are the result of a long growth and evolution, and one questions whether its form is one to be emulated, despite all its estimable and successful qualities in England. Complete independence is, of course, impossible, since any corporate institution is a creature of the State. A central bank is an institution to which the State delegates a

certain very important function—the control of the monetary system—but this function has definite social and public aspects and must be recognised as such. The Report itself states (paragraph 207) that the State “must necessarily retain ultimate sovereignty in matters affecting the currency.” The important point is that central banking is a social function and it is questionable if a created private organisation should have this power delegated to it.

There can be no question that it is the duty of the central bank to stand out against the pressure of governmental policies which the bank believes to be injurious to the public good. But if a Government decides that a certain monetary policy—using the term in its broad sense—is desirable, and if it is prepared to follow it at all costs and to be responsible to the public for it, then it must be, under a democratic scheme of government, the duty of the central bank to carry out this policy. In an extreme case the bank may appeal to the sovereignty of the people by making the matter at stake a public issue between it and the Government. Such a possibility, however remote, is bound to exercise some restraint upon even headstrong administrations.

It must be realised that the alternative form of control—Government selection and appointment—carries with it the possibility of abuse, and that poor and incompetent men may obtain a place upon the directorate or even in the management. This possibility, however, is also true to some extent of private selection. The risk is one which has to be taken and the general level of Canadian public appointments has on the whole been reasonably good, sufficiently good that there is no room for assuming that the bank would be seriously weakened by such a practice.

Although the private form of organisation is one of the suggestions in the appendix—which is in no sense a formal recommendation—Sir Thomas White and Mr. Brownlee both voiced definite objections to the idea. Mr. Laman in his dissent expressed no definite view on this point, but it is not impossible to get the view that he is doubtful of it. This, however, is quite uncertain. Mr. Brownlee's objections are not dissimilar to the views expressed here, while Sir Thomas White has the added point that private ownership would result in the unhealthy condition of canvassing and lobbying for votes.

It is not possible to make any precise prediction as to the reaction of the country on this point. There is a strong general

public ownership sentiment in parts of Canada, and this may colour the result. It is to be expected that the West would not favour a private institution. However, the final form of the bank is not clear at present, and it is quite possible that political influence will cause the form to be definitely a public one.

Turning to the suggestions as to the powers and functions of the proposed central bank—however organised—there are a few points which stand out and call for discussion. The note issue, for example, is handled in a doctrinaire manner. In Chapter V it is flatly stated that “it is essential for the full and satisfactory working of a central bank that it should have the sole right of issue of legal tender notes.” As Canadian bank notes are not legal tender, this statement does not seem to apply to them, but the appendix suggests extinguishing the banks’ note issue, which seems to imply that the above statement is deemed relevant to the Canadian situation. Leaving aside the legal tender aspect, it is surely incorrect to say that a central bank must have the *sole* right of issue in order to control the system. Presumably the main purpose of giving the central bank the sole right of issue is to ensure that when expansion occurs the added demand for hand-to-hand currency will force the commercial bank to resort to the central bank—that is, the commercial bank will have to “buy” more central bank notes with re-discounts. But this whole argument is only of significance for that part of the note issue which fluctuates or is elastic. Surely the substratum is unimportant, and it is only the elastic part of the issue which the central bank needs to have in its own power.

It may be assumed that the purpose of a central bank is to give control of the monetary system to a specialised institution, and that it is not punitive in that it is created to make an added burden on the commercial banks. Thus if the chartered banks lose their note issue—on which they, correctly or incorrectly, place great weight—compensation will have to be given in other directions, for example, the reserve ratio will have to be lower. There is no theoretical objection to the banks being given a fixed issue—equal, say, to the average circulation for the last two or three years—with the central bank supplying the balance of the currency. The banks appear to place great weight on the note issue privilege, and much antagonism to a central bank could be lessened by meeting them on this point, which is not essential to the existence of an effective central bank. This plan would not give a homogeneous circulating currency, but this is hardly a point of importance.

The Report suggests the plan of a fixed statutory reserve for the commercial banks and mentions a specific figure. The purpose of a required reserve is to ensure that the central bank will be in control of the banking system, forcing the commercial banks to resort to it on its own terms. Therefore, in setting up a central institution, the reserve should be fixed at such a point that it will not constitute a new net burden on the commercial banks, but will ensure control to the central bank when expansion occurs, thus, of course, assumes that the bank is being started in a depression period. The Report suggests that reserves equal to "say, 5 per cent" of total deposits in Canada should be held with the central bank. No distinction is made between time and demand deposits, and the rate is simply against the aggregate. As Canadian "savings" accounts are checked against to a considerable extent, there is probably no serious objection to combining the two classes of deposits for this purpose. This figure is set on the assumption that the Dominion Government deposits will be transferred to the central bank and that the note issue will be extinguished. There is, however, no statistical analysis or verification of such a figure, and there is therefore no evidence that the proper figure is not 6 or 7 per cent. In the absence of supporting evidence, the validity of any such figure may be questioned. It is not easy to calculate just what the proper figure should be because of the foreign business of the Canadian banks. Generally there is a net balance of deposits in outside banks in their favour: they have substantial quantities of gold and United States currency (particularly in the West Indian branches); outside Canada, they have call loans in London and New York which will run anywhere from 4 to 6 per cent of their total assets, and they have foreign securities in outside centres. Bankers say that a goodly proportion of all this is a reserve for the foreign deposits and business of the banks, but they also admit that some of it—outside call loans, for example—is a reserve for the internal banking structure. Thus the matter is a complicated one.

Not only is the specific figure questionable, but the method itself could be improved. If the central bank were given the right or power to set the reserve ratio itself, and to alter it from time to time, it would have a much greater control over the monetary system, and the period of transition would be easier for the banks. There would be no sudden dislocation because of a statutory reserve rate either too high or too low. Experience seems to show that in countries where tradition cannot be relied upon, a fixed reserve for the commercial banks is very necessary,

but there is a great deal to be said for putting the fixing of the ratio in the hands of the central bank. This point is of much greater importance than the note issue, and might possibly arouse less antagonism on the part of the banks.

The reserve for the central bank is suggested at 25 per cent in gold or foreign exchange. Both Sir Thomas White and Mr. Leman voiced strenuous objections to the "foreign exchange" clause, they felt that severe losses could come to the central bank through the holding of foreign exchange. This, of course, is quite true. But it is curious that these commissioners—both well acquainted with Canadian banking practice—should not realise that the Canadian banks have always held part of their second line reserves in the form of call loans abroad. When in the past the banks were attacked, usually by agricultural interests, with draining capital from the country through making foreign call loans, the reply was that such call loans are part of the system's reserves. Although the figure 25 per cent is relatively low, there seems little good reason for any statutory reserve at all, the whole matter could be left to the discretion of the bank, rather than centring interest on a certain arbitrarily selected figure.

The other suggestions made are along the usual lines, and include a limitation of the dividend rate to 5 or 6 per cent, with excess earnings going to the Government, the central banker to be the banker for the Dominion Government, and possibly for the provincial governments—which is an entirely different and more doubtful matter—the management of the federal public debt by the bank, and a list of the usual powers of, and limitations on discounting and lending and operations in general. Certain minor points arise in these various suggestions, but they do not warrant discussion here.

The whole form of the Report is curious, or rather ambiguous, and it is not always clear as to what is a majority decision and what are the points of dissent. It would have been much easier to understand the position of the various commissioners if majority and minority reports had been submitted, with no overlapping. The appendix containing the suggestions as to the form of the bank is very brief and sketchy, and it is not in that part of the Report signed by the commissioners, some of the commissioners in dissent object to parts of it as if it were a part of the Report, and in general there is no clue as to who supports what. As this section is the most concrete one, the most interesting to many, and the one on which legislation will or will not be based, it is regrettable that it is placed in such an ambiguous position.

Looking at the task given to the Commission, one sees three main problems for it to tackle. There was the matter of establishing a central bank, and, if so decided, the form of the bank, and finally the monetary policy to be followed by Canada. The first one, it turned out, occupied the Commission exclusively, and it seems, in the light of present evidence, to be the least significant of the three. The Canadian Prime Minister, according to Press reports, is reported to have stated that as far back as the autumn of 1931 he had concluded that Canada must establish a central bank. He is also reported to have stated that his resolution to establish a central bank occurred during or after the London Monetary Conference. If this is so, the whole procedure of appointing a commission to travel about the country may be questioned.

The second task, that of giving aid in the precise form of the central bank and on the many points connected with its establishment, is done in a very brief and summary manner. A little more than two pages is used to give certain broad suggestions—thirteen in all. The suggestions are quite standard and orthodox in form, and do not appear to meet the many peculiar Canadian points. Thus the second problem is hardly met at all.

Of the three problems, the third—that of monetary policy—is much the most important, and one on which a Commission of this type could render great service. With fluctuating foreign exchanges, and the main countries of the world pursuing different monetary policies, an examination of the Canadian position would seem to be of particular value and assistance. Unfortunately no such analysis was attempted or even mentioned, except by Mr. Brownlee, who deprecated its absence; it appears, in fact, to have been definitely ruled out by the Commission. The Macmillan Report in Britain was of this general nature; it is quite clear that the Canadian document does not approach the British Report in merit.

Thus it can be seen that of the three main monetary problems facing Canada, the Commission met the first one squarely and competently, scratched the second, and did not even get near the third. From a strictly economic viewpoint, the first problem—that of the desirability of a central bank—is the easiest, and needed no Commission to settle. On the other hand, the political value of having such a Commission recommend this step is doubtless considerable. It does seem regrettable, though, that with this Commission in existence more was not done on the second and third problems.

Assuming that the Commission was a serious effort to meet these questions, it is unfortunate that no officer or competent person from a Federal Reserve Bank was on the Commission. Irrespective of the relative merits of the commercial banking systems of the United States and Canada, the experience of the Federal Reserve System is particularly apropos in Canada. The two countries are similar in economic organisation and they have both faced the same problem—that of constructing and attaching a central institution to a decentralised system. The form of the Federal Reserve System—based on unit banks—has no particular value in Canada, but the experience of the system in its operations would appear to have much for Canada. It also seems regrettable that no Canadian economist was a Commissioner. Such a member of the Commission would have been of great assistance in bringing out the many peculiar features of the Canadian economy, and could have done much to adapt the rather doctrinaire suggestions to those features.

There seems little doubt that a central bank will be established. The Prime Minister recently stated (before the Report was made public) his intention of introducing legislation in the coming session of Parliament, which opened in January, to establish a central bank, and the leader of the official Opposition pronounced in favour of such an institution more than a year ago. The third party has always—for various reasons—been in favour of a central or national bank, and so it would appear that some kind of an institution is fairly certain.

Whatever may be the merits of the Report as a public document, it would be less than justice not to pay tribute to the time, attention, and labour which the Commissioners gave to their task. The work of travelling and hearing all sorts of witnesses was arduous and difficult, and the final labour on the Report was hardly less so. For two months the Commissioners were engaged on this task, for which they deserve great thanks. The British Commissioners in particular sacrificed well-earned holidays to participate in the work, and their main reward is their contribution to the solution of some Canadian problems and the very pleasant memories which many Canadians have of their contacts with these two gentlemen.

*Queen's University,
Kingston, Ont*

C. A. CURTIS

THE EQUILIBRIUM OF THE FIRM

1 THE exploration of the conditions of equilibrium of the individual firm has in recent times occupied to an increasing degree the attention of economists. This, as should be evident, was a necessary development of the so-called "particular equilibrium" method of analysis developed by Marshall and especially of the conception of the "supply-curve" — the postulation of a definite functional relationship between price and rate of supply in the various industries. The latter, though an integral part of the Marshallian system, was by no means such a straightforward self-evident conception as its counterpart, the demand curve. The reasons for this asymmetry are not far to seek. The assumption that buyers respond to price stimuli in a definite and unequivocal manner (which is all that the demand curve implies) can be deduced from the general proposition that they have a definite system of wants and act in accordance with it, that is to say, it can be directly derived from the general postulates of the subjective theory of value. But the assumption that sellers do the same is a much more complex affair — at any rate in a world where production is carried on on a co-operative basis. It implies that there exists a mechanism which translates technical and psychological resistances into cost computations in such a way that a definite amount of a commodity will be offered by each producing unit in response to any price. It implies, therefore, that there is a definite relationship between the costs incurred and the amount produced for each individual source of supply and between price and the number of such producing units, and finally between price and some derivative of the cost function of the individual producing unit. Briefly then, it assumes two things — perfect competition¹ and the existence of a definite cost function for each firm. (The assumption of perfect competition is, of course, also necessary in the case of the demand curve. But on the demand side this can more or less be treated as a "datum" — at least in so far as the demand for consumers' goods is concerned² — for it follows from the

¹ Under "perfect competition," here and in the following, we simply mean a state of affairs where all prices are given to the individual firm, independently of the actions of that firm.

² The demand for producers' goods (derived demand functions), on the other hand, are more like supply-functions in this and the following respects.

facts that in buying individuals act alone¹ and that the contribution of a single individual to the social income and, thus, his individual spending power, is relatively small. But the nature of the conditions of competition on the supply side, as is now increasingly realised, is itself something to be explained.) In order to arrive at the supply curve for an industry, therefore, it must be shown that corresponding to each price there will be a definite number of firms in the industry and a definite amount produced by each *when all firms are in equilibrium*²

Moreover, the importance attached to the nature of the supply-function in post-Marshallian economics, the division of industries into those of "increasing," "constant" and "diminishing supply price," and the distinction between "external" and "internal" economies, which postulated different cost functions for individual firms and for the aggregate of firms composing the industry, made it more than ever necessary to analyse the conditions of equilibrium for the individual firms *before* any postulates were made about the supply-function of an industry. For only when the necessary functions are found which determine the behaviour of individual firms and some formal conclusions have been arrived at about the forms which these functions can actually take and when the inter-relations of these cost-functions have been analysed, only then can we derive those supply-curves of various shapes which the simple two-dimensional diagram at once suggests to the mind³

¹ This is not to be interpreted as saying that "co-operative buying" is not feasible. But the advantages of buyers' co-operation consist solely in marketing advantages (in "exploiting" sellers), while the advantages of sellers' (producers') co-operation follow from the principle of the division of labour and exist independently of any additional marketing advantage which can thereby be gained.

² Both Marshall and Professor Pigou appear to argue that an "industry" can be in equilibrium without all the firms composing it being simultaneously in equilibrium. This is true in one sense but not in another. If it is assumed that firms have a finite life like individuals, that they gradually reach their prime and then decline, it is, of course, not necessary that all the firms' outputs should be constant when the industry's output is constant. But if the growing output of young firms is to cancel out the declining output of old ones on account of something more than a lucky coincidence, it is necessary to assume that all firms are in equilibrium, *i.e.* that they produce the output appropriate to the ruling prices, to their costs and to *their age*. The introduction of a third type of "variable" (*i.e.* the firm's age) merely implies that equilibrium must also be established with respect to this, it certainly does not imply that equilibrium need not be established with respect to the other variables.

³ With the growing realisation of the difficulties confronting any attempt at a workable definition of the concept "commodity," doubts arose concerning the legitimacy of the concept of a single "industry" which are probably more important and fundamental than the objections raised in the present article.

2 Marshall realised that it was necessary to describe the mechanism with the aid of which the reactions which the supply-curve exhibits actually come about, and this, I believe, was the reason which led him to the conception of the "representative firm." His purpose was therefore not the establishment of a concept which has analytical significance as such, but rather the construction of a mental tool with the aid of which the reaction-mechanism postulated by the supply-curve can be, if not analysed, at least rendered plausible. The "representative firm" was therefore meant to be no more than a firm which answers the requirements expected from it by the supply-curve. In the words of Mr D. H. Robertson "In my view it is not necessary to regard it (*i.e.* the representative firm) as anything other than a small-scale replica of the supply-curve of the industry as a whole"¹ In this sentence, I believe, Mr Robertson has admirably summarised the real weakness of the Marshallian concept, perhaps more so than he would himself care to admit. It is just because the "representative firm" was meant to be nothing more than a small-scale replica of the industry's supply-curve that it is unsuitable for the purpose it has been called into being. Instead of analysing at first the conditions of equilibrium for individual "firms" and then deriving from them, as far as possible, the conditions of equilibrium for an "industry," Marshall first postulated the latter and then created a *Hilfskonstruktion* which answered its requirements.

Professor Robbins has shown² that Marshall's conception of the representative firm (apart from the defect that it is nowhere in the *Principles* adequately defined) is open to the *prima facie* objection that it introduces elements which are not consistent with the general assumptions upon which economic theory is based. We are here asked to concentrate our attention upon a particular firm, which, whether it is conceived as one selected from a large number of actual firms or merely some sort of average of all existing firms, is supposed to fulfil a special rôle in the determination of equilibrium in a

But as the results of our investigation do not depend upon the validity of this concept, while its use considerably simplifies the analysis, we shall assume for the purposes of the present article that production can be divided up between a definite number of "standardised" commodities, each of which is sufficiently unlike the other to justify the use of the word "industry" applied to it.

¹ "Increasing Returns and the Representative Firm," *ECONOMIC JOURNAL*, March 1930, p. 89.

² "The Representative Firm," *ECONOMIC JOURNAL*, September 1928.

way which other firms do not "There is no more need for us to assume a representative firm or a representative producer than there is for us to assume a representative piece of land, a representative machine or a representative worker" ¹ Professor Robbins' criticism only affects Marshall's particular solution, however, and shows that the kind of short-cut Marshall attempted will not do. It enhances rather than obviates the necessity for analysing the conditions of firm-equilibrium as such.

Since Marshall's time the analysis of the equilibrium of the firm has been carried to a much higher stage of refinement. In one respect, however, later constructions suffer from the same deficiency as Marshall's. They also assume cost-conditions for the individual firms which *fit in* with the postulates made about equilibrium rather than prove how the cost functions of individual sources of supply make possible, under a given system of prices, a determinate equilibrium for the industry. Explicitly or implicitly, the equilibrium of the "firm" is made dependent upon the equilibrium of the "industry" rather than the other way round ². And although, in this particular branch of economics, attention has more and more concentrated upon the equilibrium of the individual firm,³ it has never been called into question, so far as the present writer is aware, whether the assumption of a determinate cost-schedule (upon which the whole theory of supply rests) can be derived from the premises upon which static analysis, in general, is based. It is the purpose of the present paper to show that the conception of such a determinate

¹ *Op cit*, p. 393

² Cf. especially the definition of the "equilibrium firm" by Professor Pigou: "whenever the industry as a whole is in equilibrium in the sense that it is producing a regular output y in response to a normal supply price p , [it] will itself also be individually in equilibrium with a regular output x_r " (*Economics of Welfare*, 3rd ed., p. 788). Professor Pigou does not, however, make clear whether (a) the conception of the "equilibrium of the industry" necessarily involves the conception of the "equilibrium firm" (he merely says that "the conditions of the industry are compatible with the existence of such a firm"), and (b) whether the existence of an "equilibrium firm" is a sufficient condition for the equilibrium of the industry. In our view, the conception of an "equilibrium of the industry" has no meaning except as the simultaneous equilibrium of a number of firms, and consequently the conditions of the latter must be analysed before the concept of the "equilibrium of the industry" and the categories of industries of increasing, constant and diminishing supply price can be established.

³ Cf. especially the writings of Professor Pigou, Mr. Shove, Mr. Harrod, Mr. and Mrs. Robinson in England, Professor Viner, Professor Yntema, and Professor Chamberlin in the United States, Dr. Schneider and Dr. von Stackelberg in Germany, Professor Amoroso in Italy.

cost-function, obvious and elementary as it may seem, involves unforeseen difficulties as soon as an attempt is made to analyse the factors which actually determine it

3 We propose to start in a roundabout way, by postulating at first the two assumptions on which the Marshallian supply-curve is based—namely, perfect competition¹ and the existence of a definite functional relationship between the costs incurred and the amount produced by the individual firm,² and then to examine whether it is possible to find a form for this cost-function which will make these two assumptions compatible with each other. We shall see that an analysis of the factors which determine the form of this cost-curve will lead us to doubt the legitimacy of the concept itself. We shall also see later on that our results retain some interest even after the assumption of perfect competition is dropped.

As is well known, the requirement of the firm's cost-curve under perfect competition is that it must slope upwards after a certain amount is produced³—an amount which is small enough to leave a sufficiently large number of firms in the field (for any given total output of the industry) for the conditions of perfect competition to be preserved. For the short-run analysis this presents no difficulties. In the short-run (by definition) the supply of some factors is assumed to be fixed, and as the price of the other (freely variable) factors is given, costs per unit⁴ must necessarily rise after a certain point⁵. (This follows simply

¹ If competition is imperfect, only the amount produced *under given conditions of demand* can be determined, but there is no definite relation between price and supply. Mrs Joan Robinson employs the concept of the supply curve even under conditions of imperfect competition (*The Economics of Imperfect Competition*, Ch. VI), but a perusal of her book shows that she merely retains the name of the latter for an analysis of the former.

² We ought to start, in an analysis of this sort, by attempting to define a "firm." This, however, would render the treatment unnecessarily complicated, and as will be seen later on, a definition, sufficient for the purpose, emerges by itself in the course of the analysis (see below).

³ This was first pointed out by Cournot (*Recherches*, p. 91). Marshall's remarks in a footnote (*Principles*, 8th ed., p. 459) concerning Cournot's alleged error on this point were wholly unjustified. I am indebted to Dr J. R. Hicks for this point.

⁴ Under "costs" here and in the following we include only such payments for the factors which are necessary in order to retain those factors in their actual employment, at a given efficiency. The remuneration of "fixed" factors (i.e. factors which are rigidly attached to the firm) form, therefore, no part of costs. Fixity of supply implies both (a) that the factor is available to the firm irrespective of its remuneration, and (b) that its efficiency is not a function of its remuneration.)

⁵ They must also necessarily fall up to a certain point if the fixed factors are also indivisible. Indivisibility and fixity of supply are, however, two entirely distinct properties which are frequently not kept apart, as both give rise to

from the assumption, frequently styled "the law of non-proportional returns," that the degree of variability of the technical coefficients is less than infinite—which is just another way of saying that there are different kinds of factors) But such a short-run curve will be hardly sufficient for our purpose Unless we can assume that the "fixed factors" are fixed by Nature and not as a result of a previous act of choice (and it is hardly legitimate to make such an assumption in the case of an individual firm), we must again inquire why the "fixed factors" came to be of such a magnitude as they actually are The problem of equilibrium again presents itself

We must start, therefore, at the beginning, *i e* the problem is essentially one of long-run equilibrium All factors which the firm employs are therefore assumed to be freely variable in supply and all prices to be given What will be the shape of the cost-curve? Will costs per unit vary with output, and if so, how?

(1) If the assumption of complete divisibility of all factors is dropped we know that cost per unit, for some length at any rate, must necessarily fall This is due to the fact that with increasing output more and more "indivisibilities" (actual and potential) are overcome, *i e* either the efficiency of the actually employed factors increases or more efficient factors are employed whose employment was not remunerative at a smaller output ¹ Given the state of knowledge, however, a point must be reached where all technical economies are realised and costs of production therefore reach a minimum Beyond this point costs may rise over a certain range, but (if, in accordance with our assumptions, factors continue to be obtainable at constant prices) afterwards they must again fall until they once more reach their minimum at

"fixed" costs, *i e* costs which do not vary with output But on our definition of costs, only the remuneration of indivisible factors whose supply is not fixed enters into costs, while indivisible factors of fixed supply, although no part of costs, influence costs (through changing the physical productivity of the other factors) in a manner in which factors of fixed supply which are not indivisible do not (Factors of the latter category can only influence costs *upwards*, not *downwards*) The relevance of this distinction in connection with the present paper will become clear later on (see § 7, p 73 below)

¹ It appears methodologically convenient to treat all cases of large scale economies under the heading "indivisibility" This introduces a certain unity into analysis and makes possible at the same time a clarification of the relationship between the different kinds of economies Even those cases of increasing returns where a more than proportionate increase in output occurs merely on account of an increase in the amounts of the factors used, without any change in the proportions of the factors, are due to indivisibilities, only in this case it is not so much the "original factors," but the specialised functions of those factors, which are indivisible

the same level as before. The optimum point can then only be reached for certain outputs, but there is no reason why the successive optimum points should not be on the same level of average costs. Indivisibilities, causing rising costs over certain ranges, thus do not explain the limitation upon the size of the firm so long as *all* factors are freely variable and all prices are constant.

(ii) It has been suggested, alternatively, that there are "external diseconomies" under which (as pecuniary diseconomies are ruled out by definition) must be meant the limitation upon the supply of such factors as the firm does not directly employ but only indirectly uses. (Cf Pareto's example of the rising costs to transport agencies owing to traffic congestion.) But such external diseconomies (assuming that they exist) are again not sufficient for our purpose. By definition, they affect all firms equally,¹ and therefore do not explain why the output of the individual firm remains relatively small (the number of firms in the industry relatively large), as they only give a reason why the costs of the industry should be rising, but not why the costs of the individual firm should be rising *relatively to the costs of the industry*. The diseconomies, therefore—in order that they should account for the limitation upon the size of the firm—must be *internal*.

(iii) It follows clearly from these considerations that (as diminishing returns to *all* factors together are not conceivable) the technically optimum size of a productive combination cannot be determined if only the prices of the factors and the production-function of the commodity are known. Knowledge of these only enables us to determine the optimum proportions in which to combine the factors but not the optimum amounts of these factors. In order to determine, therefore, the optimum size of the combination it is necessary to assume that the supply of at least one of the factors figuring in the production-function should be fixed—in which case the "optimum size" (or at any rate the maximum amount of the product which can be produced at minimum costs) becomes determinate as a result of the operation of the law of non-proportional returns.²

¹ If external diseconomies affect different firms unequally, this merely explains why some firms should expand relatively to others, but not why their size should be limited. (Similarly to the case where different firms have different access to external economies.)

² It would be sufficient for the determination of the "optimum size" if one of the factors had a rising supply-curve to the firm. This, however, is not compatible with the assumption of perfect competition.

Moreover, it is necessary that the factor whose supply is "fixed" for the firm should at the same time have a flexible supply for the "industry"—otherwise the industry would have to consist of one firm or at least a fixed number of firms. It is not the case, therefore, of a factor which is rent-yielding for an "industry" (a special kind of land, for example, which, though its supply for the industry is fixed, must have under the assumption of perfect competition a definite supply-price for the individual firm¹), but rather the reverse—a factor which *is* rent-yielding (price-determined) for the firm but has a definite supply-price for the industry. In this case, therefore, the fixity of supply must arise, not from a natural limitation of the amount available, but from a special peculiarity of the firm's production-function, that is to say, there must be a factor, of which the firm cannot have "two" units—just because *only one unit* can do the job.

It has been suggested that there is such a "fixed factor" for the individual firm even under long-run assumptions—namely, the factor alternatively termed "management" or "entrepreneurship". As it follows from the nature of the entrepreneurial function that a firm cannot have two entrepreneurs, and as the ability of any one entrepreneur is limited, the costs of the individual firm must be rising owing to the diminishing returns to the other factors when applied in increasing amounts to the same unit of entrepreneurial ability. The fact that the firm is a productive combination under a single unit of control explains, therefore, by itself why it cannot expand beyond a certain limit without encountering increasing costs. The rest of this paper will be taken up by a discussion of the problems arising out of this suggestion: what is meant by entrepreneurship as a factor of production? Is its supply really fixed in the long run? And finally, does it justify the construction of a determinate long-run cost-curve of the required form?

4 The term "entrepreneurship" as a factor of production is somewhat ambiguous—or rather more than ambiguous, possessing as it does at least three distinct meanings. What is generally called the "entrepreneurial function" can be either (1) risk—or rather uncertainty-bearing, or (2) management, which consists of two things: (a) supervision, (b) co-ordination. The latter two are not generally kept separate, although, in the writer's view, to distinguish between them is essential to an understanding of the problem. "Supervision" is necessary in the case of co-operative production (where several individuals

work together for a common result) in order to ensure that everybody should do the job expected of him—in other words, to see that contracts already entered into should, in fact, be carried out. “Co-ordination,” on the other hand, is that part of the managerial function which determines what sort of contracts should be entered into which carries out the adjustments to the given constellation of “data.” Which of these three functions can be considered as having a “fixed supply” in the long run?

The first of these functions—uncertainty-bearing—can be dismissed offhand, from our point of view. Because whatever measure of uncertainty-bearing it will ultimately be found most convenient to adopt—the theory of risks and expectations is as yet too undeveloped for us to talk about a “unit” of uncertainty-bearing—it is highly unlikely that it will be found to have a fixed supply for the individual firm. The mere fact that with the rise of joint-stock companies it was possible to spread the bearing of uncertainty over a great number of individuals and to raise capital for an individual firm far beyond the limits of an individual's own possession, excludes that possibility.

Nor is it likely that “management” possesses these unique characteristics—in so far as this term refers to the function of supervision. Supervising may require a special kind of ability, and it is probable that it is a relatively indivisible factor. It may not pay to employ a “foreman” for less than fifty men and it may be most economic to employ one for every seventy-five, but is there any reason why it should not be possible to double output by doubling both, foremen and men? An army of supervisors may be just as efficient (provided it consists of men of equal ability) as one supervisor alone.

This is not true, however, with regard to the co-ordinating factor—that essential part of the function of management which is concerned with the allocation of resources along the various lines of investment, with the adjustment of the productive concern to the continuous changes of economic data. You cannot increase the supply of co-ordinating ability available to an enterprise alongside an increase in the supply of other factors, as it is the essence of co-ordination that every single decision should be made on a comparison with all the other decisions already made or likely to be made, it must therefore pass through a single brain. This does not imply, of course, that the task of co-ordination must necessarily fall upon a single individual, in a modern business organisation it may be jointly under-

taken by a whole Board of Directors. But then it still remains true that all the members of that Board will, in all important decisions, have to keep all the alternatives in their minds—in regard to this most essential mental process there will be no division of labour between them—and that it will not be possible, at any rate beyond a certain point, to increase the supply of co-ordinating ability available to that enterprise merely by enlarging the Board of Directors^{1,2} The efficiency of the supply of co-ordinating ability can be increased by the introduction of new technical devices, *e.g.* by a better system of accounting, but given the state of technical knowledge and given the co-ordinating ability represented by that enterprise, the amount of “other factors” which can be most advantageously employed by that enterprise will be limited, *i.e.* the supply of “co-ordinating ability” for the individual firm is “fixed”

It follows from these considerations that for theoretical purposes the most satisfactory definition of a firm is that of a “productive combination possessing a given unit of co-ordinating ability” which marks it off from “productive combinations” (such as an “industry”) not possessing this distinguishing peculiarity. It is the one factor which in the long run is “rigidly attached to the firm,” which, so to speak, lives and dies with it, whose remuneration, therefore, is always price-determined^{3,4} On

¹ The essential difference between supervising and co-ordinating ability is that in the case of the former, the principle of the division of labour works smoothly—each supervisor can limit his activities to a particular department, or a particular sub-department, and so forth. In the case of a Board of Co-ordinators, each member of that Board will have to go through the same mental processes, and the advantages of co-operation will consist solely in the checking and counter-checking of each other's judgments. If the Board consists of men of equal ability, this will not materially improve the quality of their decisions, while if the abilities of the different members are markedly unequal, the supply of co-ordinating ability could probably be enlarged by dismissing the Board and leaving the single most efficient individual in control. In practice, of course, a certain amount of co-ordinating activity will be undertaken by Departmental Managers alone in large businesses, but this will always refer to such “infra-marginal” cases where the weighing of *all* alternatives is manifestly superfluous. Only such decisions, however, which affect the “margins” fall under the heading Co-ordination, properly defined. (Cf. Professor Knight's distinction between the “important decisions” always reserved for the entrepreneur, and the “routine work” of management. *Risk, Uncertainty and Profit*, Ch. X *passim*. For a fuller treatment of “marginal” and “infra-marginal” acts of choice, cf. Rosenstein-Rodan, art. “Grenznutzen,” *Handwörterbuch der Staatswissenschaften*, 4th ed., Vol. IV, pp. 1198 ff.)

² Cf. the analysis on the problem of Co-ordination in E. A. G. Robinson, *The Structure of Competitive Industry*, pp. 44 ff.

³ The case of the Salaried General Manager of modern joint-stock companies presents difficulties which the present writer by no means professes to have solved. Professor Knight (*op. cit.*) seems to take the extreme view that control

this definition, firms whose co-ordinating ability changes, while preserving their legal identity, would not remain the same firms, but then all the theoretically relevant characteristics of a firm change with changes in co-ordinating ability. It might as well be treated, therefore, as a different firm.

5 We have found, therefore, that the firm's long-run cost-curve is determined by the fixity of supply of the co-ordinating ability represented by it. Further considerations, however, so far from lending support to the usual representation of this cost-function and the supply-function which is based upon it, lead to the conclusion that this very fact renders the cost-function of the individual firm indeterminate. For the function which lends uniqueness and determinateness to the firm—the ability to adjust, to co-ordinate—is an *essentially dynamic function*, it is only required so long as adjustments are required, and the extent to which it is required (which, as its supply is ‘fixed,’ governs the amount of other factors which can be most advantageously combined with it) depends on the frequency and the magnitude of the adjustments to be undertaken. It is essentially a feature not of “equilibrium” but of “disequilibrium” — it is needed only so long as, and in so far as, the actual situation in which the firm finds itself deviates from the equilibrium situation. With every successive adjustment to a given constellation of data, the number of “co-ordinating” tasks still remaining becomes less and the “volume of business” which a given unit of co-ordinating ability can most successfully manage becomes greater, until finally, in a full long-period equilibrium (in

always rests with those who bear the ultimate risks, while the salaried managers are only concerned with “routine work.” This is manifestly untrue in certain cases, if “control” is to be interpreted as the “making of important decisions.” Also, we have to take into account the possibility that the efficiency of a given unit of co-ordinating ability should vary with the amount of profits it receives — though just in the case of the entrepreneur this is very unlikely. In so far as it does, however, the supply of co-ordinating ability will be variable and the entrepreneur's remuneration (or rather that proportion of it which is necessary to maintain him in a given degree of efficiency) will enter into costs. All these, however, though they put difficulties in the way of the definition we have chosen, do not affect the rest of the argument.

⁴ Which does not imply, of course, that “co-ordinating ability” is rigidly attached to an industry—as a given unit of co-ordinating ability (and thus a “firm”) can always leave one industry and turn to another. Similarly, there are factors which are “rigidly attached to the industry,” but not to the firm: specialised kinds of machinery, for example, which can only be used by the industry in question, but which a firm will not continue to employ if they yield a greater product in combination with a different unit of co-ordinating ability than they do for the firm which originally possesses them.

Marshall's stationary state), the task of management is reduced to pure "supervision," "co-ordinating ability" becomes a free good and the technically optimum size of the individual firm becomes infinite (or indeterminate). There is thus no determinate ideal or "equilibrium" position which a firm is continuously tending to approach, because every approximation to that situation also changes the ideal position to which it tends to approximate. It is not possible, therefore, to derive the firm's cost-function from the economic data—namely, from a given system of prices and a given production-function—because the nature of that production-function, or, rather, the relative position which the factor "co-ordinating ability" occupies in that production-function, is not given independently of equilibrium, but it is part of the problem of equilibrium itself.¹

It is possible, of course, that if the frequency and the magnitude of the adjustments to be undertaken remain the same (in other words, the degree to which economic data are changing per unit of time is constant), the theoretically optimum size of the individual firm might remain constant. But even if it were possible to formulate a kind of theory of static-dynamics where, having once found a suitable measure of "economic change" (a kind of compound variable made up of the degree of variation of all the different data and weighted according to some arbitrary standard), the magnitude of the latter could be assumed to remain constant, the above conclusion by no means follows necessarily. For the "optimum size" would still be dependent upon the nature of the change and upon the degree to which adjustments to each given constellation of data can be made in a given time (in other words, the degree to which the path actually followed deviates from the "equilibrium path").² Thus the mere introduction of dynamic change does not render the situation any more determinate than it was without it. It might mean, however, that in the actual world, the average size of individual firms will remain more or less the same because the inherent tendency of the size of the firm to expand will be

¹ Similar ideas are expressed by Professor Chamberlin concerning his curve of selling costs (*The Theory of Monopolistic Competition*, p. 137). Professor Chamberlin, however, does not draw the consequences which, in our view, follow from these in regard to his own analysis.

² Only if all future changes, and the consequences of these changes, are completely foreseen by everybody, will the situation be different, but then it will be analogous to a continuous long-run equilibrium and co-ordinating ability will be unnecessary. For the conception of a dynamic equilibrium with complete foresight see Hicks, "Gleichgewicht und Konjunktur," *Zeitschrift für Nationalökonomie*, Vol. IV, No. 4.

continuously defeated by the spontaneous "changes of data" which check it

6 What conclusions follow, from a theoretical point of view, from these considerations? It follows, first, that under static assumptions ¹ (*i.e.* a given constellation of economic data) there will be a continuous tendency for the size of the firm to grow and therefore *long-period static equilibrium and perfect competition are incompatible assumptions*. Even if conditions of perfect competition obtain in any given situation, that situation cannot become one of equilibrium so long as the conditions of perfect competition remain preserved. It follows secondly, that the existing organisation of the economic system, the division of the productive organisation into a great number of independent units under a single control, is essentially one adapted to the existence of dynamic change and imperfect foresight, and therefore the institutional pattern borrowed from a dynamic world cannot readily be applied to a theoretical static society where every kind of dynamic change is absent. It follows, lastly, that all conceptions which are derived from the twin assumptions of a determinate static equilibrium and perfect competition (such as that of a determinate, "reversible" supply-function) are open to the *prima facie* objection that they are derived from assumptions which are mutually inconsistent. In fact, the idea of a determinate equilibrium corresponding to each given constellation of "tastes" and "obstacles" becomes questionable in a world where the existence of indivisibilities offers advantages for co-operative production ²

¹ The sole significance of static assumptions in this connection is that in this case the tendency to equilibrium is not dependent on the degree of foresight. All our conclusions also apply to a dynamic world with complete foresight. (Cf. also Knight, *op. cit.*, p. 287. "To imagine that one man could adequately manage a business enterprise of indefinite size and complexity is to imagine a situation in which effective uncertainty is entirely absent.")

² It is at least questionable whether the same conclusions would hold in a world of "perfect divisibility" where *all* economies of scale are absent, and it is to be remembered that it was under this assumption that the conception of equilibrium of the Lausanne School was elaborated. We have seen that the extent to which "co-ordination" is needed, in any given situation, depends on the "volume of business" (*i.e.* the scale of operations of the individual producing unit), and in a world where the scale of operations offers no *technical* advantages, "economies" could be gained by reducing that scale further and further until the need for "co-ordination" (*i.e.* the need for a specialised function of control, of decision-making) was completely eliminated. (This is not to be interpreted as saying that each "infinitesimal" unit would not have to co-ordinate its own activities—in the sense of "equalising its alternatives on the margin"—but these would be completely similar to the "co-ordinating activities" undertaken by each individual on the side of consumption. There would be no need for "co-ordinators," *i.e.* factors of production specialised in the function of co-

7 We started off by inquiring into the cause which makes the cost curve of the individual firm rise relatively to the costs of the industry and thus makes a determinate equilibrium under perfect competition possible. We came to the conclusion that there is no such thing. We now have to drop the assumption of perfect competition and assume, in accordance with the conditions in the real world, that a firm can, at any rate beyond a certain point, influence by its own action the prices of the goods it is buying and selling. The limitation upon the size of the firm no longer presents any problem. It is sufficiently accounted for by the supply and demand curves with which it is confronted. But the element of indeterminateness, which the isolating assumption of perfect competition enabled us to detect, still continues in force when the basic assumption is removed. In so far as the relative place of "co-ordinating ability" is still not "given" by the production-function, but depends on, and changes with, the relation of the actual situation to the equilibrium situation, it still remains true that the cost-curve of the individual firm, and consequently its position of equilibrium in relation to a given system of supply and demand curves, is indeterminate.

On closer scrutiny, however, there appears a line of escape for those who believe that the position of equilibrium under imperfect competition is otherwise determinate. "Co-ordinating ability" may be regarded as a "fixed" factor, but it is not, or at least it need not be, regarded as an "indivisible" factor.¹ Although it is not possible to increase the amount of factors applied to a unit of co-ordinating ability beyond a certain limit without loss of efficiency, there is no ground for assuming that there will be "increasing returns" to the other factors if they are applied in less than a certain amount to a unit of co-ordinating ability.² A certain business manager may not be able to manage more than a certain volume of business, in a certain situation, with undiminished efficiency, but why should he not be able to manage *less* equally well?³ Thus the indeterminateness in the

ordination. It was with this idea in mind that we found it legitimate to assume earlier in this article [cf p. 61, especially footnote 1] that in buying, individuals act alone and thus treat perfect competition on the demand side as a "datum." In such a world, therefore, there would be no organisation of production into "firms," or anything comparable to it, and "perfect competition" would establish itself merely as a result of the "free play of economic forces."

¹ Cf footnote 1 on p. 65 for the distinction between "fixed" and "indivisible" factors.

² There might be "increasing returns" for other reasons (if the factors themselves are indivisible), but this does not concern us here.

³ "Co-ordinating ability" can also be assumed to be an indivisible factor.

amount of co-ordinating ability required per unit of product does not affect the downwards sloping portion of the cost-curve, it merely affects the upwards sloping portion. Now, under conditions of imperfect competition, only the downward-sloping section of the firm's cost-curve is relevant from the point of view of the determination of equilibrium, as in equilibrium the firm's average cost-curve must be falling.¹

On further consideration, however, this point turns out not to be very serious. The costs which, in equilibrium, must be falling are average total costs, including the remuneration of uncertainty and co-ordinating ability (including therefore, all profits which cannot be eliminated by the forces of competition), it is not a condition of equilibrium that marginal costs or even average costs, in our definition of the term,² should be falling,³ while those sections of the cost-curve, where these are rising, will be indeterminate. Moreover, it is possible to argue that changes in the amount of co-ordinating ability required per unit of product will affect "normal profits" in Mrs. Robinson's definition⁴ (i.e. the amount of profits necessary to induce new firms to come into the industry), and thus change the position of the demand-curves with which existing firms are confronted. In case this is true, not only the equilibrium amount produced by a given firm will be indeterminate, but also the number of firms in the industry, given the conditions of the demand for goods and the supply of factors.

8 There remains, finally, to answer a more practical question: what is the effect of the elements of indeterminateness above analysed on the actual world?² How can their influence be evaluated in terms of what some writers call "the instability of capitalism"? And here we can conclude our investigation with a more reassuring note.

In relatively "quiet" times, i.e. in times when tastes and

if the type of decisions which entrepreneurs have to make varies in accordance with the volume of business and if an individual entrepreneur is better fitted for the making of some kinds of decisions than other kinds. In case this assumption is preferred, the rest of the argument in the present paragraph becomes irrelevant.

¹ Cf. Chamberlin, *The Theory of Monopolistic Competition*, Ch. V, and Joan Robinson, *The Economics of Imperfect Competition*, Ch. VII.

² Cf. footnote 4, p. 64. The importance of choosing this definition lies in the fact that it draws attention to the purely tautological nature of the conclusions arrived at by including "price-determined" remunerations under the cost items.

³ On this point of Mr. Harrod's note on "Decreasing Costs" (*Economic Journal*, June 1933).

⁴ *The Economics of Imperfect Competition*, p. 92.

the rate of saving are steady, technical innovations rare and changes in the population small, we may expect the actual size of "representative firms" to expand. If the system is one in growth (*i.e.* if capital and population are increasing), this will probably take place without a diminution in the number of existing firms. It is in any case questionable how far this tendency for the individual firms to expand can actually lead to a diminution in the number of firms. Although if "relatively static conditions" prevail long enough the number of firms existing must fall, and fall rapidly, it is very questionable whether in any actual case the process could be carried far. In the first place, the fall in the scarcity of co-ordinating ability represents, from the point of view of society as a whole, a reduction in real costs. It implies an increase in the "bundle of utilities" which can be produced out of a given amount of resources. It is quite possible, therefore, that the increase in the amount produced by the "representative firm" should run *pari passu* with an increase in the social product and should not necessitate any diminution of production elsewhere. In the second place (and this seems more important), the growth in the size of some firms, due to the fact that they periodically revise their ideas of their own cost-curves (which is what the change in co-ordinating ability comes to), throws new "co-ordinating tasks" upon other firms (to whom this must appear as a "change of data"), and even if it does not oblige them to reduce their output, at least it will check their growth. For this reason alone it is not to be expected that the process of expansion will be smooth and continuous, even under purely static conditions.

The reverse is true in times of "disquietude," when changes of data become more frequent and more far-reaching. But while the tendency to expand in quiet times mainly acts in the "long run" through changing the supply of the long-period variable factors (because so long as plant, machinery, etc., are given, the tendency to expand is effectively blocked by the limitation upon the amount of other factors which can be combined with them¹), the tendency to contraction may affect short-period output, by raising the prime costs (marginal costs) curve.

All this must in no way be construed as an attempt by the

¹ Save in the case where the long period factors are divisible, *i.e.* consist of small units, and where, therefore, their supply can be expanded, though not contracted, within a short period. For example, in a factory which uses a great number of highly durable machines it is always possible to increase their number in a short period, but it may not be possible to diminish it until some of them wear out.

present writer to put forward yet another theory of the Trade Cycle. Although if all major causes of fluctuations were absent there would exist a certain range of fluctuations due to the causes above analysed, in the author's view these are completely covered up in the real world by the more violent fluctuations which emanate from other causes—just as the ripples on the sea which emanate from the movement of ships (and which would make their effect felt over wide ranges if the sea were absolutely quiet) are fully absorbed by the more powerful waves which are due to the winds and the movements of the moon. When compared with the instabilities due to the monetary system, the rigidities of certain prices and the uncertainty of international trading conditions, the instability caused by the vagaries of the factor “co-ordinating ability” must appear insignificant.

NICHOLAS KALDOR

London School of Economics

THE AMOUNT OF MONEY AND THE BANKING SYSTEM

THE object of this note is to illustrate the factors which determine how much the amount of money will be affected in different types of banking system by given changes in that system. I have confined the inquiry to three types of banking system, but the method could easily be extended to cover other types. Finally, I have attempted, by means of statistical material taken from the MacMillan Report, to illustrate the results for the English banking system for the years 1925 to 1930.

1 The first banking system which I have considered is of the following type —No gold coin is in circulation, and the Central Bank alone issues notes. The Central Bank keeps a certain proportion of its note issue and a certain proportion of its deposit liabilities to member banks covered by gold. Member banks keep a certain proportion of their deposit liabilities covered by reserves, *i.e.* by notes or by deposits with the Central Bank, and they also keep a certain proportion of their reserves in the form of deposits with the Central Bank. The amount of money is defined as the total deposit liabilities of the member banks + the amount of notes held by the public. The public keep a certain proportion of their money in the form of notes.

Let G = the amount of gold,

N = the total note issue, of which N_1 is held by member banks and N_2 by the public,

B = the deposit liability of the Central Bank to the member banks,

D = the deposit liabilities of the member banks,

M = the amount of money,

l = the proportion of its note issue, which the Central Bank covers with gold,

m = the proportion of its deposit liability to member banks, which the Central Bank covers with gold,

n = the proportion of their deposit liability, which member banks cover with reserves,

p = the proportion of their reserves which member banks hold in the form of deposits with the Central Bank,

and q = the proportion of their money, which the public holds in the form of notes

Then

$$\begin{aligned} G &= lN + mB, \\ N &= N_1 + N_2, \\ nD &= N_1 + B, \\ B &= p(N_1 + B), \\ M &= N_2 + D, \\ \text{and } N_2 &= qM \end{aligned}$$

It follows that

$$M = \frac{G}{n(1-q)(l-p[l-m]) + lq} \quad (i)$$

Let

$$\frac{1}{n(1-q)(l-p[l-m]) + lq} = t_1$$

2. If the Central Bank keeps the same proportion of its liabilities, whether they be notes issued or deposit liabilities, covered by gold, l will be equal to m . Let $l = m = l'$

Then

$$M = \frac{G}{l'(n+q-qn)} \quad (ii)$$

Let

$$\frac{1}{l'(n+q-qn)} = t_2$$

It is interesting to note that p , the proportion of its reserves, which member banks hold in the form of deposits with the Central Bank, disappears from this equation. This is, of course, exactly what one would expect. If the member banks substitute deposits with the Central Bank for part of their holding of notes, this will have no further effect if the Central Bank keeps the same proportion of gold against notes and against deposit liabilities. It will only have further repercussions if these two proportions are different.

3. Let us suppose that the Central Bank prints an amount of notes equal to its holding of gold + a given fiduciary issue, and maintains a given proportion between the notes so issued but not in circulation and its deposit liabilities to member banks. Let K = the fiduciary issue and k = the proportion between "notes in the banking department" and Central Bank deposit liabilities to member banks.

Then

$$M = \frac{G + K}{n(1-q)(1-p[1-k]) + q} \quad (iii)$$

Let

$$\frac{1}{n(1-q)(1-p[1-k]) + q} = t_3$$

In this case it is to be noticed that an alteration in p will affect M . This is naturally so, because now, if the member banks substitute notes for deposits with the Central Bank, this will affect the proportion k between the Central Bank's notes in the banking department and its deposit liabilities.

Up to this point it has been assumed that the member banks keep the same proportion of their deposit liabilities covered by reserves, whether these are "time" or "sight" liabilities. This may not be the case. Let D_1 be the amount of current accounts and D_2 the amount of deposit accounts, let n_1 be the proportion of current accounts covered by reserves and n_2 the proportion of deposit accounts covered by reserves. Let r be the proportion of their deposits which the public keep on current account.

$$\text{Then} \quad D_1 = r(D_1 + D_2)$$

$$\text{and} \quad n = \frac{n_1 D_1 + n_2 D_2}{D_1 + D_2}$$

$$\text{so that} \quad n = n_2 + r(n_1 - n_2)$$

II

In order to determine how sensitive the amount of money is to given changes, it is necessary to differentiate equations (i), (ii) and (iii) in respect to all the possible variables. The results of this process are shown in Table I.

TABLE I

	1	2	3
$\frac{dM}{dr}$	$-(1-q)(l-p[l-m])t_1 M$	$-(1-q)t_2 M$	$-(1-q)(1-p[1-k])t_2 M$
$\frac{dM}{dn}$	$-(1-q)(l-p[l-m])t_1 M$	$-(1-q)t_2 M$	$-(1-q)(1-p[1-k])t_2 M$
$\frac{dM}{dl}$	$-(n_1 - q)[1-p] + q)t_1 M$	$-(1-q)t_2 M$	$-(1-q)(1-p[1-k])t_2 M$
$\frac{dM}{dm}$	$-(n_1 - q)t_1 M$	$-(1-q)t_2 M$	$-(1-q)(1-p[1-k])t_2 M$
$\frac{dM}{dt_1}$	$-(1-q)(l-p[l-m])t_1 M$	$-(1-q)t_2 M$	$-(1-q)(1-p[1-k])t_2 M$
$\frac{dM}{dt_2}$	$-(1-q)(l-p[l-m])t_1 M$	$-(1-q)t_2 M$	$-(1-q)(1-p[1-k])t_2 M$
$\frac{dM}{dp}$	$-(1-q)(l-p[l-m])t_1 M$	$-(1-q)t_2 M$	$-(1-q)(1-p[1-k])t_2 M$

All the proportions are +ve and lie between 1 and 0, and l will always in fact be $> m$. It follows that the derivatives are all of the sign shown in the table. In the case of each of the three types of banking system $\frac{dM}{dn_1} = r \frac{dM}{dn}$, $\frac{dM}{dn_2} = (1-r) \frac{dM}{dn}$ and $\frac{dM}{dr} = (n_1 - n_2) \frac{dM}{dn}$.

III

The third thing which I wish to do is to make some attempt to measure these quantities for England from the years 1925 to 1930

TABLE II

	G	N	R	B	D	N_1	$N_2 = \frac{N}{N_1 + B}$	$p = \frac{P}{N_1 + B}$	$n = \frac{n}{N_1 + B}$	$q = \frac{q}{N_1 + B}$	$l = \frac{l}{N_1 + B}$	$k = \frac{k}{R}$	r
1925	145	352	26.7	71.3	1603	104	278	0.105	0.109	0.145	0.32	0.374	0.576
1926	149	375	27.6	68.4	1608	103	272	0.4	0.107	0.145	0.336	0.404	0.573
1927	150	373	32.0	66.5	1657	105	268	0.388	0.103	0.139	0.341	0.481	0.562
1928	163	372	46.9	65.7	1709	105	267	0.355	0.1	0.13	0.372	0.714	0.568
1929	147	362	44.5	62.8	1738	104	268	0.377	0.096	0.129	0.446	0.709	0.541
1930	155	358	56.7	64.9	1741	104	254	0.384	0.097	0.127	0.366	0.875	0.529
Δv	151.5	370	—	66.6	1693	—	266.1	0.389	0.102	0.147	0.417	0.592	0.566

Table II gives the necessary information for these calculations. R measures "notes in the banking department" of the Bank of England. G, N, R, B, D, N_1 and N_2 are all measured in £ million. G, N, R and B are annual averages of the monthly averages of the columns headed respectively "Gold Coin and Bullion," "Notes in Circulation," "Notes in Banking Department" and "Other Deposits Bankers" in the MacMillan Report, pp. 302-3. D and N_1 are taken from the columns headed "Total Deposits" and "Cash in Hand" in Table 3 on p. 296 of the MacMillan Report. r is taken from the column headed "Proportion of Current Accounts to Total" on p. 37 of the MacMillan Report.

It is to be observed that the proportions p, n, q, l and r are all fairly stable, while the proportion k shows a very large change over these years. This is largely, no doubt, to be explained by the changes made by the Currency and Bank Notes Act of 1928. But even between the years 1929 and 1930 there is a large fluctuation in k . On the other hand, l is fairly stable. This suggests that while formally the English banking system is of our third type, in fact it is more similar to the second type examined above.

In order to see how much more or less sensitive our banking system would become to given changes in its structure, it is useful to assume certain values for n_1, n_2, l and m . Let us suppose, as has often been suggested, that the joint-stock banks hold a smaller proportion of reserves against deposit accounts and a larger proportion against current accounts. Let us suppose further that the proportion to be kept against deposit accounts is 3 per cent. and that the proportion to be kept against current accounts

is chosen in such a way that for the average of the years 1925 to 1930 the same proportion between reserves and total deposits would have been maintained. Then, since $n = n_2 + r(n_1 - n_2)$, we have

$$102 = 03 + 556(n_1 - 03),$$

$$\text{or} \quad n_1 = 16$$

Similarly, let us suppose that the Bank of England had maintained a proportion of 37.5 per cent of its notes backed by gold, and that it had chosen to back such a proportion of its deposit liabilities by gold as would have enabled it to maintain the same note circulation and deposit liabilities to bankers as it did maintain from 1925 to 1930. Then we have

$$lN + mB = l'(N + B)$$

$$.375 \times 370 + m66.6 = 347(370 + 66.6),$$

$$\text{or} \quad m = 195$$

In Table III these proportions are used to calculate values for Table I

TABLE III

	$\frac{dM}{dG}$ ¹	$\frac{dM}{dn}$	$\frac{dM}{dq}$	$\frac{dM}{dl}$	$\frac{dM}{dm}$	$\frac{dM}{dl'}$	$\frac{dM}{dk}$	$\frac{dM}{dp}$	$\frac{dM}{dn_1}$	$\frac{dM}{dn_2}$	$\frac{dM}{dr}$
1	12.8	-3.37 M	-4.4 M	-2.11 M	-438 M	—	—	203 M	-1.88 M	-1.5 M	-438 M
2	12.8	-3.84 M	-3.99 M	—	—	-2.88 M	—	0	-2.13 M	-1.71 M	-5 M
3	4.74	-3.11 M	-4.33 M	—	—	—	-168 M	171 M	-1.91 M	-1.58 M	-447 M

¹ The three figures in this column represent t_1 , t_2 and t_3 , and are calculated by means of the proportions given in Table II from equations (i), (ii) and (iii). t_1 and $t_2 = \frac{M}{G}$. They should, therefore, be equal to $\frac{N_1 + D}{G}$, which is equal to 12.9, calculated directly from Table I. $t_3 = \frac{M}{G + K} = \frac{N_2 + D}{G + 260}$, since K is the Fiduciary Issue $\frac{M}{G + K}$, calculated directly from Table I = 4.72. These calculations provide a check on some of the work. I suspect, however, that the correspondence between the two methods of calculating t_3 is largely accidental, since the Fiduciary Issue (i.e. the notes in circulation + notes in the banking department — the amount of gold held by the Bank of England) was not fixed at £260 until 1928. I have used the figures for t_1 , t_2 and t_3 given in Table III for the purpose of calculating the other figures in Table III.

There are certain comments to be made on this table. All the figures in line 1 and all those in the columns headed $\frac{dM}{dn_1}$, $\frac{dM}{dn_2}$ and $\frac{dM}{dr}$ are in a sense arbitrary and fictitious — they represent the sensitiveness of the amount of money to given changes, in the first place on the assumption that during the years 1925–30 the Bank of England had maintained certain arbitrarily chosen proportions between gold and notes issued and between gold and deposit liabilities, and in the second case on the assumption that the joint-stock banks maintained certain arbitrarily chosen proportions between current accounts and reserves and between

deposit accounts and reserves. Thus in fact, since there is no difference between these proportions and $n_1 = n_2$, $\frac{dM}{dt} = 0$

These figures should be taken, therefore, to represent what would have happened if the English banking system had been different in certain ways from what it was in the years 1925-30.

Secondly, all of the figures in Table III are, of course, calculated on the assumption that one factor is altered and that all the other factors are independent and constant. In many cases it is permissible to assume that the proportions are independent of one another, if the joint-stock banks decide to maintain a larger proportion of reserves to deposits, this is not likely to affect the proportion of notes held by the public to their total holding of money. But there are two important cases in which independence cannot be assumed. In the first place, a change in the amount of money may cause a change in prices or money incomes¹. If a country is part of an international system, this in turn will probably affect its gold reserves. Thus a change in any of the proportions would probably affect G if the exchanges were fixed. For this reason the figures in Table III must not be interpreted as measuring the change in the amount of money, which would, in fact, have followed a given change in one of the proportions during the years 1925-30, but rather they are simply measures of the sensitiveness of the English banking system during those years (i.e. measures of what would have occurred if everything else had remained the same). In the second place, if the Central Bank is taking a conscious control of the monetary position—as it quite properly should do—it may not maintain l , m , l' or k constant, but may consciously vary them to offset changes in the other factors. It is necessary, however, to assume that certain proportions— l and m , or l' or k , for instance—are kept constant by the Central Bank in order to be able to calculate the figures of Table III at all. Thus all the figures in all the columns—except in those headed $\frac{dM}{dt}$, $\frac{dM}{dm}$, $\frac{dM}{dl'}$ and $\frac{dM}{dk}$ —are calculated on the assumption that the Bank of England was maintaining certain proportions constant. As I have said above, l' was much more constant than k during the years 1925-30, while l and m are purely fictitious quantities. Thus line 2 is probably the best measure for the actual position in England during those years.

¹ It is not my purpose in this note to discuss at all whether this must be so, or in what way the change is caused.

Thirdly, it is interesting to make certain comments on the figures. First, it is clear that whichever type of banking system England had adopted, the sensitiveness of the system to given changes would not have been very different in most cases. In the case, however, of a change in the amount of gold, with the first or second type of system the change in the amount of money would have been about thirteen times, while with the third type of system it would have been only about five times the change in the amount of gold. Secondly, the introduction of different percentages of reserves against deposit or current accounts would not, *with the arbitrary chosen figures of 3 per cent against deposit and 16 per cent against current accounts*, have made the banking system very sensitive to changes in the proportion of deposits held on current or deposit accounts. Thus, if during those years persons had elected to hold 56.6 per cent instead of 55.6 per cent of their deposits on current account, the amount of money would have been decreased by about one half of one per cent. Thirdly, it is interesting to observe how sensitive the amount of money is to changes in q , the proportion of their money, which the public hold in the form of notes. Mr Hawtrey has argued that a boom is stopped and a depression starts largely because q increases as wages rise and a larger proportion of the national dividend goes to those classes who hold a large proportion of their money in the form of currency. Table III shows that if q had increased from 13.7 per cent to 14.7 per cent, the total amount of money would have decreased by about 4 per cent. However, in order to test the importance of Mr Hawtrey's theory it is necessary to show not only how sensitive the amount of money is to changes in q , but also that q increases in the later phases of a boom. Table II shows that q was falling steadily in England from 1925 to 1930. But this period was a peculiar one in England, and to test the theory it would be interesting to calculate $\frac{dM}{dq}$ and movements in q for other countries and for other times, in which the phases of the trade cycle were more typical.

J. E. MEADE

LABOUR MOBILITY IN THE STEEL INDUSTRY

THE scene of this investigation is mainly around Penistone (population 3,264—1931 Census) and Thurlstone (population 2,640—1931 Census), two villages on the Yorkshire flanks of the Pennines. Together they form a small township—for administrative purposes two urban district councils—which, before 1931, were almost entirely dependent on a single steel works built by Cammell's and retained and developed by the Company as it passed through its various post-war changes until the formation of the English Steel Corporation led to the closing down of the works in the general scheme of reorganisation.

The proximity of Sheffield had prevented the growth of subsidiary firms at Penistone, for the needs of the main industry were adequately served by purchases from the specialist firms in the main centre. The textile industry—wool in Denby Dale, five miles to the North, cotton in Glossop, just over the Pennines—had not touched the town. One or two other minor concerns have arisen, but altogether these employ less than 200 men. None of them is an "expanding industry." The coalfield near the town is worked out, the nearest pit of any size being several miles away. The land around is bleak and in the main unfit for arable cultivation. Large tracts support only mountain sheep. Tenant farmers work the land, often unaided and in very few cases with other than family help. With the substitution of mechanical haulage for ponies in the South Yorkshire collieries, the market for the produce from what little arable land is possible disappeared, and much of this land has therefore been laid down to grass. In view of these factors, it is clear that when the steel works closed in February 1930, there were many men thrown out of work for whom absorption into local industry was impossible.

The wages books of the Penistone works for the month of January 1930 were examined, and the name, address and occupation of every fifth man extracted.¹ This gave a sample of 187. Most of these men were then interviewed and particulars of the activities and circumstances of each, since the closure of the works, entered on a card. Eleven, or 5.9 per cent, of the men

¹ I am grateful to the Secretary of the English Steel Corporation for permission and facilities to examine and take extracts from these books.

originally selected have died since leaving the firm, and are excluded from all figures and discussion following. Only fifteen of those remaining have not been interviewed, but from friends and neighbours sufficient corroborated particulars have been obtained to justify inclusion in the survey.

The following table showing the sample graded according to age groups indicates that an abnormal proportion of men were in the upper age groups. To some extent this is due to the isolated position of the town, men once having moved in would tend to hang on to their jobs more tenaciously than if they could obtain similar work near by.

TABLE Ia

All Men in Penistone area¹ By Age Groups (Ages when works closed, Feb 1930)

	Under 25	25-35	35-45	45-55	55-65	65 and over	Total
Absolute numbers	26	40	30	34	19	5	154
% Proportion in each age group	16.9	26	19.5	22.1	12.4	3.3	100

¹ *I.e.* excluding men from Sheffield, Glossop and Barnsley regions

TABLE Ib

As above, but excluding employed at time of Inquiry (Ages in 1930)

	Under 25	25-35	35-45	45-55	55-65	65 and over	Total
Absolute numbers	10	21	16	27	18	5	97
% Proportion in each age group	10.3	21.6	16.5	27.8	18.5	5.2	100

If, as is often contended, the persons most difficult to move are the older and married men, the Penistone area is likely to prove an extremely intractable proposition, for not only were 55 per cent of the men in the sample over 45 years of age, 75 per cent over 35, and 92 per cent over 25 at the time of inquiry, May 1933, but only 10 per cent of those over 25 were unmarried and had no family to support. This statement (from *prima-facie* evidence) of the immobility of the labour at Penistone is borne out to a considerable extent by the detailed study which follows, but there is much more movement, apart from that due to the Industrial

Transference Scheme, than one would expect. One very important instance is the trek to retail shopkeeping and Insurance work by the better paid of the skilled men due to a desire (often the main aim in life of a worker) to be independent. The sudden closing of the works forced them to take the plunge which otherwise they might have postponed indefinitely. Almost entirely the rest of the movement which has taken place is accounted for by men who have obtained work or have gone on the chance of obtaining work through the influence of friends or relatives. With the exception of a few employed at Vickers' for a short time soon after the Penistone works closed and a group set on to form a third shift (since abandoned) at a Stocksbridge steel works, not more than half a dozen of the Penistone sample have obtained a job that has lasted longer than a year other than through the Labour Exchange, unless they have been able to obtain a recommendation from someone employed at the place where they are seeking work.¹

Only nine people state that they have had a better job since leaving Cammell's than before, and of these, only six are still employed at it. Three are insurance agents, one a blacksmith, another stoking at a gas works, and one, who is working for a local authority, states that though he is financially much worse off, his work is more pleasant, which more than compensates him for his monetary loss. The other men insist that they are worse off even neglecting the extra cost and fatigue of travelling. This is endorsed by all but one of the Sheffield men, who are emphatic that they were better off at Penistone, travelling the 32 miles each day, than they have ever been since, even when employed at their old trades within the city boundaries. When due allowance is made for the rosy spectacles provided by the lapse of time, there is little doubt that most of the men have suffered a severe degradation in their standard of life.

It has been considered useful to separate from the rest the men in the sample who live outside the Penistone area, in the populous industrial regions of Sheffield, Glossop and Barnsley, in order to compare their position with that of the main body living in the isolated Penistone locality. Of four Glossop men visited, two were in work, one had voluntarily left a job to take

¹ This is not a suggestion that all jobs are obtained by graft, but merely that work is so scarce that practically every foreman or manager who has a vacancy knows at least one person who is competent enough to fill it, and that he will naturally employ a person he knows and trusts rather than a complete stranger. Even where this is not so, there is bound to be a worker on the place, whether consulted or not, who will certainly "put in a word" for a friend.

charge of an inn, and the other—an older man—had not worked at all. At Barnsley the sample of eight showed that three had had practically full-time employment, two had done a little work, and only three had been unemployed the whole time. The Sheffield group had suffered more severely. Of ten interviewed, only three—two of whom were electricians—were working. One of the electricians had worked at one job practically the whole three years, but the other two men working had been unemployed one year out of the three. The other Sheffield man had worked 15 months for the City Corporation, but none other had been employed for more than six months altogether, and four had not worked at all. It would be unsafe to draw comparisons between the men in these different towns, because the sample is numerically so small, but they may well be grouped, for they have many things in common, especially as the major industry in each area, though different, is equally depressed.

In order to relieve the effects of unemployment, two road schemes were started in the Penistone area, and many married men were given a period of work on road-building. In many cases this is the only work the men have had during the three years since the works closed, while not all have had this opportunity. Single men were ineligible, though some of these were sent under the Industrial Transference Schemes to road and other public works in other parts of the country.

Among those who have had no work, the older men predominate. In both areas those over 55 when the works closed represent more than half. This is what one would expect in the Sheffield-Glossop-Barnsley group, where the jobs that have been available have been secured by competition in the ordinary way, but in the Penistone group it is more readily explained by the policy of the local authorities. Older men with grown-up families, those with pensions, widowers and old bachelors, have been passed by when men were selected for road work. The schemes have been promoted to relieve distress and not to prevent deterioration.

There were other jobs of a temporary nature available—dismantling work at the plant and certain work for the local authorities, such as excavating for drains and reservoirs, which would not have been undertaken, or would have been done by a fewer number of professionals working continuously, had not the works closed. The following Table II shows the number and ages of men affected by this type of work and having had no other employment except on road schemes. The figures include

men employed on road schemes and show, therefore, all men who have had no other than temporary employment provided by the firms dismantling and by the public authorities. If read in conjunction with Table I the figures of Table II bring out clearly the extent to which men over 55 have been neglected by the authorities and the main effort concentrated on men between 25 and 50 who were, in fact, those with the heaviest family responsibilities.

TABLE II

No of Men employed dismantling, on Road Schemes and on Temporary Work for Local Authorities By Age Groups Penistone Area only All Schemes

Ages when works closed	Men who have had no other employment				All who have worked on any of above jobs			
	Nos	% of those in this category	% of all in each age group	% of all in Penistone sample	Nos	% of those in this category	% of all in each age group	% of all in Penistone sample
Under 25	6	11.5	23.1	3.9	9	11.5	34.6	6.0
25-35	16	30.8	40.0	10.4	25	32.1	62.5	16.2
35-45	11	21.2	36.7	7.1	18	23.1	60.0	11.7
45-55	14	26.9	41.2	3.2	20	25.6	58.8	13.0
55-65	5	9.6	26.3	9.1	6	7.7	31.6	3.9
65 and over	—	—	—	—	—	—	—	—
Total	52	100.0	33.7	33.7	78	100.0	50.8	50.8

The duration of the spells of employment on the road schemes varied considerably, but as this was not a function of age but of need, together with a dash of chance (for men in apparently similar circumstances had widely different periods of road work), ages have been ignored in the following Table III. This sets out the lengths of time individuals were employed on road jobs, dismantling or temporary "Council work." Men are classed according to the total length of time they have spent at any or all of these types of work.

Altogether one-third of the men in the Penistone group of the sample at some time or other since 1930 were employed on a road scheme. As might be expected, whereas practically every man employed on the local schemes worked less than one year at this occupation, two-thirds of the single men who were transferred had employment lasting longer than twelve months. Three of

TABLE III

Length of time individual Men were employed on Road Schemes, dismantling, Temporary Council Work Men from Penistone Area only All Men so employed

Time (months)	Numbers	% of men so engaged	% of total sample
Under 1	2	2.6	1.3
1 to 3	10	12.8	6.5
3 to 6	15	19.2	9.7
6 to 9	18	23.1	11.7
9 to 12	13	16.7	8.4
12 and over	20	25.6	13.0
Total	78	100.0	50.8

these have not yet returned home, but none has secured a permanent job. If one takes 35 as the upper age limit for "transferability" on road schemes (and all those who were transferred were well below this), there were only seven others who were single, within the age limit, who had had more than six months' unemployment and could therefore be regarded as potentially transferable in this sense. If the sample results are a true indication of the position, over 60 per cent of those conforming to this definition of "transferable" have been sent out of the district, though most of these have since returned. The single young men have suffered least unemployment of all the groups, as the following table shows.

TABLE IV

Period of Unemployment of each Man By Marital and Age Groups Penistone Area only All Men

Period of Unemployment (months)	No. of men unemployed Stated amounts			% of all in age group		
	Single men under 35	Married men under 35	All over 35	Single men under 35	Married men under 35	All over 35
Under 1	4	2	3	15.4	5.0	3.4
1 to 3	2	3	5	7.7	7.5	5.7
3 to 6	—	3	—	—	7.5	—
6 to 9	3	2	1	11.6	5.0	1.1
9 to 12	2	1	—	7.7	2.5	—
12 to 24	6	12	9	23.1	30.0	10.23
24 and over	9	17	70	34.7	42.5	79.5
Total	26	40	88	100	100	100

TABLE V
*Amount of Unemployment experienced by each Man
 at Present Working*

Amount of unemployment (months)	Penistone Area		Sheffield, etc Area	
	No of men	% of men in work	No of men	% of men in work
Under 3	19	33 4	4	10
3 to 6	4	7 0	—	—
6 to 12	8	14 0	2	20
12 to 24	20	35 1	2	20
24 and over	6	10 5	2	20
Total	57	100	10	100

The majority of the men, especially the married ones, in the lower age groups at present holding permanent positions obtained work soon after the steel plant closed down. The temporary jobs, which are responsible for the bunching of the men in the 12-24 months unemployment category of the Penistone section of Table V, are almost entirely dismantling, road work and part-time work, such as delivering advertisement news sheets and helping in chip shops. The single men have managed to secure jobs since the depression of 1931 to a much greater extent than have the married men of the same ages. This is not so to the same extent in the Sheffield, etc area, a difference which may be due to the greater facilities offered by these districts. There is definite evidence that one of the factors promoting the employment of single men is the inability of married men to accept the wages offered, for those paid to some of the young men would not support a man and his wife. This is especially true of temporary work out of the district. To obtain this work, single men have taken lodgings, a procedure which would prove an intolerable burden to the married man faced with the necessity of maintaining his home and family as well as paying "board and lodgings" elsewhere on the low wages the men in the sample have been able to secure. At least two married men in the sample found such a position insupportable and had to relinquish their jobs. For this reason married men who have secured work which showed signs of permanency have left the district or travelled between their homes and work—a practice which sometimes means they are away from home twelve hours each day. Most of the permanent jobs secured by married men still resident in the Penistone area have been in the steel works of Stocksbridge,

five miles away, or in various industries in the Huddersfield area, eight miles away—both of which permit the men to return to their homes in the evening. In spite of this more than half the men still living in the Penistone area and at present working, travel under five miles daily to and from work, due mainly to the large proportion of the men at work which is engaged in dismantling the steel works, and by the tendency of men who obtain work out of the district to move their homes. As about two-thirds of the jobs in the Penistone area are temporary (all but three of the 26 outside the area are permanent), the permanent jobs within

TABLE VI

Industries into which Men working out of the District have gone. Penistone Sample only. All Men working more than five miles from Penistone

Industry	No of men employed	% of men out of district in each industry to all		
		So employed	Employed in sample	In sample
Mining	2	5.1	3.5	1.3
Bricks, Pottery	3	7.7	5.3	2.0
Chemicals	1	2.6	1.8	.7
Iron and Steel	13	33.3	22.9	9.1
Textiles	2	5.1	3.5	1.3
Building	1	2.6	1.8	.7
Retail Trade	8	20.6	14.0	5.2
Insurance	4	10.3	7.0	2.6
Road Repairs	1	2.6	1.8	.7
Others	1	2.6	1.8	.7
Road Schemes	3	7.7	5.3	2.0
All Industries	39	100	68.7	26.3

a circle of five miles radius round the works are relatively unimportant and most of the men who have settled jobs work out of the district. More than half of them live outside, too. Table VI shows the industries in which those members of the Penistone sample who have left the district, and those who have jobs more than five miles from the site of the steel works and travel daily, are working.

Another quite natural movement has been the drift to smaller houses to save expenses. Indeed, out of 150 families interviewed, ten had moved for this reason. Similarly, men who have been unemployed for some time in other depressed areas have begun to share their homes with others in a similar plight, but thus

movement is absent from Penistone owing to the plentiful supply of cheap houses

Men who have been fortunate enough to remain in work have moved into better type of houses now in much less demand. There has also been some movement of men (4 per cent of the sample) to bungalows and small farms on the outskirts of the villages where they hoped to eke out the dole with a little revenue from poultry farming and gardening—a hope rudely shattered by the imposition of the means test

The two following tables, VII and VIII, give particulars of the industries and occupations in which the late steel workers

TABLE VII

Men at present occupied By Industries

Grouping according to residence when works closed

Industry	Penistone Area			Sheffield, etc Area			Both Areas together
	No of men	% of all men at work	% of all men in area	No of men	% of all men in work	% of all men in area	% of total sample
Mining	2	3.5	1.3	—	—	—	1.1
Bricks, Pottery	3	5.3	2.0	—	—	—	1.7
Chemicals	2	3.5	1.3	—	—	—	1.1
Iron and Steel	15	26.4	9.7	2	20	9.1	9.7
Textiles	2	3.5	1.3	—	—	—	1.1
Leather and Paper	—	—	—	2	20	9.1	1.1
Building	4	7.0	2.6	1	10	4.5	2.8
Gas and Water	3	5.3	2.0	—	—	—	1.7
Road Repairing	5	8.7	3.3	2	20	9.1	4.0
Railway	1	1.8	.7	—	—	—	.6
Retail Trading	8	14.0	5.2	2	20	9.1	5.7
Insurance	5	8.7	3.3	—	—	—	2.8
Other	—	—	—	1	10	4.5	.6
Dismantling	7	12.3	4.6	—	—	—	4.0
All Industries	57	100	37	10	100	45.5	38

are at present employed. If the dismantling and road schemes are omitted, the spells of temporary and other employment the men have worked since the works closed have been distributed among the industries and occupations in almost the same proportions as the numbers in these tables.

As would be expected, the iron and steel industry claims most of the men at present employed, but as the majority of the occupations secured in this industry are of a labouring character, the considerable skill of the men is running to waste. The skilled craftsmen in occupations common to many industries have been

more fortunate, especially the fitters, electricians and smiths. Indeed, all the men in the sample skilled in these trades and under 60, except one electrician who is driving a petrol locomotive, have obtained employment at their own trade, but in different industries for the most part. The crane-drivers, too, have had more than the average amount of employment and have had most of it at their own occupation. This is due mainly to the character of the dismantling work which, ironically, calls for identical skill and effort, in some cases on the same engines as

TABLE VIII

Men at present occupied By Occupations

Grouping according to residence when works closed

Occupation	Penistone Area			Sheffield, etc Area			Both Areas together
	No of men	% of all men at work	% of all men in area	No of men	% of all men at work	% of all men in area	% of total sample
Furnacemen	2	3.5	1.3	—	—	—	1.1
Smiths	2	3.5	1.3	—	—	—	1.7
Fitters	5	8.7	3.5	1	10	4.5	3.4
Platelayers	1	1.8	.7	—	—	—	.6
Electricians	1	1.8	.7	2	20	9.1	1.7
Bricklayers	1	1.8	.7	—	—	—	.6
Gas Stokers	2	3.5	1.3	—	—	—	1.1
Loco and Crane Drivers	7	12.3	4.6	—	—	—	4.0
Insurance Agents	5	8.7	3.5	—	—	—	2.8
Shop- and Inn keepers	8	14.0	5.3	2 ¹	20	9.1	5.6
Labourers	21	36.8	13.7	5	50	22.6	14.8
Others	2	3.5	1.3	—	—	—	1.1
All occupations	57	100	37	10	100	45.5	38

¹ Includes one shop assistant

these men displayed before the works closed. One man only has learned a new trade—pipe-moulding—taught by the firm for which his father also works. The cosmopolitan occupation of labouring has embraced over one-third of the men and, together with shop- and inn-keeping, accounts for more than all other occupations put together. Insurance collectors are prominent, too, but only among the men from the Penistone area who have bought books in more prosperous areas. The owner shop-keepers and inn-keepers, except one in Glossop, have left their home district and launched out elsewhere. Table IX shows the

unemployment position when the survey was completed and at corresponding times in previous years

TABLE IX

Unemployment in May of each year as deduced from Data secured by Investigation and compared with Official Figures

	1929	1930	1931	1932	1933
No of unemployed men in the sample of Penistone area, men only		123	77	79	97
Above as % of all Penistone area sample		80	50	51.3	62.3
Iron and Steel Smelting, etc., Ministry of Labour figures, % (See <i>M of L Gazette</i> , June each year)	{ Wholly un- employed Unemployed, temporarily stopped, etc	13.3	21.7	24.5	22.3
		30.9	45.1	47.6	44.3
% of Sheffield, etc., sample stated to be unemployed		72.7	59.1	59.1	54.5
No of men in the sample of Sheffield, etc area, men stated to be unemployed		16	13	13	12

The influence of the road schemes on the figures for the Penistone area is clearly shown. They had not started in May 1930, and by the beginning of 1933 had practically ceased to have any influence on the unemployed in the area. There has been a small decline in both groups of the unemployed since May 1930, but in both cases it has only been an equal proportion of the total as the decline from the closure of the works in February 1930 to May, three months later.

HARRY DAWES

REVIEWS

Interregional and International Trade By BERTIL OHLIN
Harvard Economic Studies Vol XXXIX (Harvard University Press, London Humphrey Milford 1933 8vo
Pp xvii + 617 \$5 00)

International Economics By R F HARROD, M A (London
Nisbet & Co, Cambridge University Press 1933 8vo
Pp x + 211 5s)

THAT the economic doctrine of value as applied to international trade, in the form inherited from Mill, is not wholly satisfactory is a view that will probably find ready acceptance among students of economics. The attempts made from time to time to put the matter on a more acceptable basis furnish sufficient proof of this. The question of what it is that constitutes the essential feature distinguishing international from domestic trade, when the influences determining values are considered, has received different answers at different times. Professor Ohlin, like many of his predecessors, insists that the features that call for a special treatment are to be found even though an international boundary line is not crossed by goods in passing from the place of their production to that of their consumption. He thus examines inter-regional trade and brings it into the same scheme of analysis whether the regions lie within a single national boundary or in different national territories. The doctrine of non-competing groups—for which, by the way, he has little respect—is recalled to the memory in this connection. While admitting that international boundaries impose obstacles of a special kind to the free movement of goods and persons, he finds no special reason for different treatment on account of differences of the money units in terms of which national trade is conducted. The lack of free mobility, not so much of goods, whether partly manufactured or ready for consumers, as of the factors of production required for their creation or transformation into the desired form, is the distinguishing feature between trade within a region and trade between regions. What he presents is a theory of value applicable to a group of inter-dependent markets, communication between which is hampered by various obstacles.

His study is presented in two stages, beginning with a simplified problem in which obstacles to movement of factors of production within each of the regions concerned are left out of account for the time being, and hindrances, such as cost of transport, to the movement of goods within or between regions are also ignored. In a second stage these restrictive assumptions are discarded and the complications of the actual world are brought into the discussion. Intermediate between these two stages is a study of international trade problems subject to the simplifications of the first stage, and, following the general consideration of the second stage, more than half the volume is devoted to the examination of international problems in the light of that discussion. Naturally, the volume contains a not inconsiderable amount of material that could equally well be presented in connection with general problems having no specific relation to international—or inter-regional—trade. Among these the present writer is disposed to include the discussion of the localisation of industry, a subject as to the neglect of which the rather emphatic view expressed by Professor Ohlin does not appear to be wholly justified. At the same time, a summary treatment of some topics deliberately excluded might have served the purpose of enabling readers to understand the author's viewpoint. Only a limited number of those who, it may be hoped, will profit by the study of Professor Ohlin's careful and illuminating analysis will, for example, be familiar with the particular angle from which the group of Swedish economists of which he is a distinguished member regard certain parts of the general theory of value. What he treats as obvious may seem to others to need a considerable amount of exposition. Throughout he appears to assume that large-scale production is synonymous, in all branches of industry, with increased economy of production, and that small-scale production is relatively inefficient. Further, he appears to assume (*e g.* cf. p. 281) that, where the capacity of the fixed appliances of a productive organisation are fully utilised, the costs at the margin are equal to the average costs per unit produced. How far some of his conclusions are dependent on the acceptability of this assumption it is by no means easy to determine without repeated and detailed study such as few readers are likely to give to this point. Some isolated references to diminishing returns occur, it is true, but more by way of indicating that increasing returns are to be assumed in most practical problems. His scorn of the doctrine which he calls the classical doctrine is accompanied by the challenge that it

involves the assumption of constant returns. It is not, however, clear that the replacement of one too general assumption by another to which the same description may be applied can justify the terms in which he takes frequent occasion to characterise the exposition common in the text-books. Space will not permit of any adequate discussion here of his statements of what is and what is not contained in the doctrines his rejection of which has given rise to the present treatise. It may be noted, however, that (p. 418) it is found convenient to employ, in reference to a specific problem, the assumption of identical "units of productive power" in all industries of a given country. This comes as close as anyone would wish to the central conception of the "comparative costs" doctrine.

In one of his earlier chapters, Professor Ohlin sets out in terms of prices the conditions of international exchange dealt with in the "classical" exposition in terms of costs, a procedure somewhat similar to that adopted by the present reviewer more than ten years ago. At this stage he finds it helpful to assume the existence of national currencies free to vary in value independently of each other. This freedom of variation is, however, quickly abandoned, for it is indicated on p. 68 that gold standard conditions are to be assumed, and the limitation is reaffirmed on p. 499. In 1924, when the Swedish version of the book was issued, the return to a fairly general use of the gold standard was a not unnatural hope. The English version, appearing in 1933, comes to a world in which the practical problems of international trade preclude, for the most part, the assumption of a general metallic standard of currencies. Readers of the book will, therefore, find it useful to bear in mind the underlying assumption of stable exchange rates. In such conditions, however, the statement, "there seems no need of a special foreign exchange theory to explain how these rates" (*i.e.* exchange rates) "are governed" (p. 375), has less significance than might otherwise have to be assigned to it.

In connection with a number of problems examined, the conception of the national income (the aggregate of money incomes) and the conditions and significance of its variations is found useful. This aggregate is, with one exception, always treated as the total remuneration of the factors of production, and, with the addition of "liquid capital," makes up the total "buying power" whose fluctuations are assigned very great importance. Were it not that a reference is made (p. 160) to its identity with the net money value of all goods produced,

some doubt would arise as to the recognition of this double aspect of national income, a double aspect expressed in the two procedures that have been used in recent years in the statistical estimation of our own national income. In some cases the apparent tracing to changes in buying power of altered levels of commodity prices—as cause and effect—might receive a different significance than is assigned them if the value of the goods and services produced, after deduction of the liquefied capital included in it, were, as it should be, regarded as no less definitely the measure of the nation's money income from its productive activities than is the aggregate of the remuneration of the factors of production. Might not the definition of “neutral” money (p. 377, footnote 1) be based on goods produced as satisfactorily as on productive factors? The stability of “the general price level” of the former is, at least, determinable by statistical procedures more readily and definitely than that of the latter.

As “buying power” includes not only the aggregate of money incomes but also the flow of liquid capital (cf. *e.g.* p. 440), a question of some importance arises in reference to the latter. The description covers the capital released when productive processes are completed with the emergence of goods ready for consumption or use. But does it cover more than this? If not, the word “liquid” appears too general, since in these days an abnormal amount of capital is kept in an effectively liquid condition, so that the aggregate of buying power might, in accordance with the definition, include not only newly liquefied capital but also any part of the stock of liquid capital, in excess of normal requirements for capital in that form, that might be thrown into the current stream of commercial “buying power.” Perhaps this disturbing feature is actually in operation, but it does not appear to be clearly contemplated by our author.

An interesting presentation of statistical data relating to Canada, to illustrate the effects of borrowing from abroad continued for a fairly long period, suggests some possible elements not clearly indicated in discussing the observed facts. For one thing, the habit of holding substantial reserves in New York is common among the larger Canadian banks. “Call money” means available resources if held in New York, but cannot be reckoned as equally available if held in Canada. How far the calculations of capital movements have taken into account this situation, and how far the argument may be affected by the fact that, at the period in question, three Canadian banks having

branches in New York and also in London were among the six most important dealers in European exchange in New York, Professor Ohlin does not indicate. In this illustration, and in the discussion preceding it, the precise distribution in time of foreign borrowings may be affected by the common practice of offering capital for public subscription to replace temporary advances by means of which banks had enabled the borrowers to acquire capital goods in a period antedating the public subscription. The goods may not merely have been bought but, so far as the buyers were concerned, paid for many months before this subscription (cf p 465, footnote). Something of the smooth operation of the financial mechanism to which attention is drawn (*e.g.* p 454) may be due to considerations of this kind.

One further among the very numerous important and interesting problems discussed by Professor Ohlin may be mentioned here. In this case there is involved a matter the controversial treatment of which in the *ECONOMIC JOURNAL* will be familiar to readers, namely, the conditions that accompany the payment of war indemnities. In Professor Ohlin's discussion of international lending and borrowing, the conditions in the lending country strike the reader as appropriate to an unwilling lender acting under pressure. For convenience the author has extended the simplified phraseology of lending and borrowing to cover cases of transfer under stress, when the recipient is not a borrower in the ordinary sense of that word, and the lending is without hope of repayment. The explanation of the conditions assumed in the formally general case may be that what is set out is primarily a description of this class of transactions. In such a case, the adjustments required to bring about the appropriate relations of prices in the countries concerned may well differ in not unimportant respects from those required in the case of a country looking abroad for opportunities for investment on the one hand and, on the other, would-be borrowers having in contemplation the payment of interest and eventual repayment of the capital. "The difficulties in the way of necessary readjustment are usually much greater in the lending than in the borrowing country" (p 427) is a phrase that describes conditions having little obvious relevance to such experience as that of Great Britain during most of her long career as a lender abroad. The problem discussed seems to be that of a lender whose lending power has largely decreased or of one whose capacity to lend has not been built up in the course of long experience, though

a lengthened term of receiving the remittances is assumed in the case of the "borrower"

In discussing so detailed a treatment of a subject of the importance and magnitude of international trade, a selection is appropriate of some points regarding which more than a simple recognition of agreement with the author's views is to be expressed. In following this course, an impression of a general conflict of views may have been conveyed where the dominant impression experienced was one of broad agreement and cordial appreciation of sound work well done. For that reason the reviewer would prefer not to conclude with a further note of disagreement. In the hope of doing something to assist the rejection from English economic diction of the word "pricing" in the sense in which it occurs so frequently in the earlier parts of Professor Ohlin's treatise, when "price formation" would appear to render more correctly the idea to be expressed, that note of disagreement is, nevertheless, risked. The fact that the treatise is, in fact, an American treatise, may have something to do with the selection of a rendering that will not convey instinctively to ordinary English readers the conception that is intended—at least until, by repeated encounters with the word in various contexts, the idea desired to be conveyed is gradually evolved.

Mr Harrod's little book is a welcome addition to the series of Cambridge Economic Handbooks, both as to its matter and as to its manner. Into a couple of hundred octavo pages he crowds an astonishing amount of instruction in economic principles and of discussion regarding their application to practical problems. His exposition, differing from that of Professor Ohlin, begins with the doctrine of comparative costs and embraces variations from the ordinary presentation that, while not calling for the specific use of the Marshallian diagrams, presents in admirably lucid shape some of those points of advantage in handling the foreign trade problem which the diagrammatic treatment affords to those familiar with the method.

The development of the arguments, presented in a crisp and attractive form, is aimed at their application to practical problems of our own time and country, and extended to world problems in view of the close and vital relations between certain of our domestic problems and corresponding problems of the world at large. In dealing with them Mr Harrod relaxes the strict scientific attitude of detachment regarding different possible lines of action. Even at the outset he speaks of what course a country "should" take in view of gains available by way of

foreign trade, and of "the way in which countries ought to dispose of their productive resources"

The body of ideas with which Mr Harrod works is not essentially different from that of Professor Ohlin, but he finds it possible to develop his analysis from the "classical" doctrine with up-to-date improvements, and, far from assuming the general prevalence of increasing returns as an essential feature of the problems examined, he contends for the general prevalence of decreasing returns in this field, and takes up as cases for special treatment certain conditions involving decreasing costs. The earlier part of the analysis is developed on the basis of relatively stable exchanges due to gold standard conditions, but, at the appropriate stage, the conditions leading up to the abandonment of that standard by this country are examined in the light of the preceding discussion of principles. Thereafter, problems involving variable relations between national currencies are taken in hand.

A few words in passing may be permitted with reference to two incidental features. In discussing the elements of the balance of international payments, the commodity imports and payments for services of foreign ships, brokers, etc., are presented as separate headings, while, in fact, the value of such imports as are carried in foreign ships and have involved the mediation of foreign brokers or underwriters already include, in most national trade records, payments for the services in question. The use of the United States documents—as shown by a somewhat later reference—appears to be responsible for the presentation of data in a form not representative of general practice. A few pages later, the choice between payment by a draft and by the shipment of gold is said to be in favour of the former if the cost of the draft is "at least equal to" its par value plus the costs of remitting gold, when "not exceeding" appear to be the appropriate words.

The range of the analysis and discussion extends to disturbances of the fundamental conditions of trading and to those attending foreign lending. Methods of stabilising the exchange value of the currency are considered and various courses that might be adopted to assist world recovery from the depression of the last few years are discussed. Mr Harrod favours public works extension by means of borrowed funds. A final chapter is devoted to tariffs and their effects on the national economy and should prove of great help to the understanding of the problems involved. The utilisation of the theoretic material

presented to elucidate so vitally important a group of practical problems as are covered gives very great immediate importance to this little book

A W FLUX

Gold, Unemployment and Capitalism By T E GREGORY
(London P S King & Son 1933 Pp xvi + 308 12s)

ACCORDING to the Introduction, dated Aug 12, 1933, only one of the eighteen papers collected in this volume was then more than eight years old, but it would have given a better knowledge of the facts to say that three belonged to the period before March 1925 and all the rest to 1930-33. I do not think the classification into five groups very happy. "Gold," "America," "Central Banking," "International Trade," and "Unemployment and Capitalism" have been recently too much intertwined to make grouping under those headings instructive. Simple chronological order would have given readers a better idea of the good contribution to sound thinking actually made by Professor Gregory in these scattered articles and addresses.

The earliest, "The Economics of Employment in England, 1660-1713," which the author includes with a sigh as he reflects how happy he might have been if he had not been driven off economic history into the welter of monetary theory by the exigencies of a teaching staff, has a connexion with the rest of the book because it shows that, stupid as we are, we still have made some advance, though a tiny one, on the thought of two or three hundred years ago. The next two papers, both on banking, show Professor Gregory to have had in 1924-5 a very wholesome scepticism about the higher claims then fashionable on behalf of central bank management, but to have been rather more hopeful about the Federal Reserve system than subsequent experience has justified.

The remaining fifteen papers, with the Introduction, form his running commentary on what continentals succinctly call the "crisis." So far as the monetary side of this is concerned, Professor Gregory displays his usual erudition and subtlety of mind. The doubt is whether his treatment of the subject is sufficiently broad to serve the purpose for which the lectures and articles were intended. The first requisite for promoting an understanding of the alleged "Maldistribution of Gold," and "Gold Movements into and out of Great Britain," I should have thought, is some considerable insistence on the fact that gold is sold to the highest bidders, and that when a number of countries are on the gold standard and therefore offering prices

which are "fixed" in their own currencies, the highest bidders are those whose fixed price is the most attractive because it will buy the most commodities and services wanted by the gold sellers, so that every country on the gold standard as well as every country not on that standard can and does have just as much gold as it chooses to buy at the market price, and all talk of some rich countries being "unable" to get gold and others being unable to refrain from getting it is palpably absurd.

So, too, in the elaborate and in its way instructive explanation of why no violent rise of the British price-level followed the abandonment of the gold standard in 1931, I miss a frank recognition of the long-known fact that if by inaction or by arbitrary action a currency which has been deprived of the limitation imposed by convertibility continues limited to the same amount as before, it will not be deprived of any of its old purchasing power by the mere abolition of its convertibility. Most economists preserved a gloomy silence during the shocking events of the summer of 1931, but I hope those who did not expect a great and sustained rise of prices as the consequence of the abandonment of convertibility were not really "a very small minority," as Professor Gregory suggests. There was no reason to expect such a rise, since neither the Bank nor the Government was likely to be desirous of exercising their joint power of increasing the issue of the paper pounds which had become the standard in place of 400-oz. bars of gold. One at least of the "very small minority" was fortified in not expecting it by the recollection that he had foretold that the limitation of the issue of Rentenmarks might make them a success in spite of their ridiculous "backing."

Not much more than half of the book deals with the monetary side of things. The remainder will make more than one reader doubt whether fate (in the guise of the London School of Economics) has not been unkind both to Professor Gregory and the public in keeping his academic activities out of the field of general economic theory in which he would have liked to work, and in which he would certainly have excelled. There is profit for all but the omniscient, and pleasure for all but the bigoted, to be found in his dispassionate summing up of the case for and against "Self-sufficiency" (though he should not have begun with repeating the common misquotation of Adam Smith's rotund aphorism "defence is of much more importance than opulence"), in his iconoclastic discussion of Rationalism and Employment, and in his rather gloomy views on the Future of International Trade and Common Sense and the Balance of Trade (which last

might better have been called *The Nonsense of the Balance of Trade*) But the two gems of the collection are, I think, "The Future of Capitalism" and "An Economist looks on Planning," which should be read in this, the chronological order. There are, he tells us in the first of these articles, "two varieties of human temperament especially prone to be attracted by a planned economy, the constructive and the meddlesome," and he believes they are strong enough to force the world to try planning and to suppress criticism which would, if allowed, destroy the Plan. Even experience of failure of the Plan, he thinks, will not lead to the abandonment of the principle, since failure is not likely to be so complete as to cause absolute retrogression, but will only slow down progress. He "can see no reason why the world should not pass over into a new era of absolutism and intolerance, why the writings of the French and British humanists and utilitarians should not be burnt as dangerous documents by the common hangman, and why the desire to improve one's condition should not be treated as a crime to be punished as theft is to-day." The intellectuals who are now undermining confidence in the future of our present civilisation may, then, as the paid servants of a bureaucratic state, explain why freedom is a curse and liberty a crime. None but the very youngest of us can get much comfort from the final sentence in which he relents so far as to say, "Let us hope that in due course the age of reason will return, and that mankind will find that the pleasures of malevolence are less satisfying in the end than those which free enterprise allowed us to satisfy." Just so the judge in the black cap, "And may God have mercy on your soul!"

EDWIN CANNAN

Des Crises Générales et Périodiques de Surproduction By
PROFESSOR JEAN LESCURE Tome I Le phénomène
Tome II Causes et remèdes (Paris Editions Domat-
Montchrestien 65 francs)

THIS is the fourth edition of Professor Lescure's important work, which first appeared in 1907. The book now extends to two volumes, the first and longer of the two supplying the facts in the form of a historical survey of crises from 1810 to 1931, the second being concerned with causes and remedies. A reader who is already acquainted with the literature of the trade cycle would probably be well advised to read the second volume first, and to approach Professor Lescure's historical treatment of the subject with a prior knowledge of his theoretical views.

The discussion of causes begins with theories explaining crises by monetary phenomena. That part of the subject is disposed of in fifteen pages (pp 379-94).

Next, explanations based on the phenomena of production, consumption and distribution are divided into "organic" and "inorganic." The inorganic, tracing the crises to fortuitous fluctuations, are dealt with in a further eleven pages, the conclusion is that these fortuitous causes do not afford a solution, in that they are not regularly associated with *all* crises.

In turning to the organic explanations, which trace crises to some inherent characteristic of capitalist society, Professor Lescure is entering upon the main current of his argument. He discusses explanations based on the tendency of profits to decline, with reference first to Ricardo and Henry George, and then to Marx and Tugan Baranowski. He criticises at some length the theories of MM Bounatian and Aftalion, based on the length of the process of production. He then reaches his own explanation. "If the crisis is characterised by a retardation of the creation of new enterprises, and by the diversion of savings from industrial ventures, it is this retardation, this diversion which we have to explain. In our modern communities profit plays the part of the motive-power of the spirit of enterprise. The entrepreneur ceases to create on the day on which the margin between cost of production and selling price appears to him to shrink. At the end of a period of expansion costs rise in certain essential industries faster than prices" (pp 452-3).

Professor Lescure does not here mean to challenge the well-recognised fact that the rise of wages lags behind the rise of prices (pp 458-9). But he has in mind two principal cases: (1) that of new enterprises handicapped by the high prices of capital equipment installed at a time of industrial activity, and (2) that of concerns like railways and public utilities, in which charges made to the consumer may be limited by authority.

With regard to these latter, which in some countries at any rate have, no doubt, contributed a very considerable proportion of the openings for investment, Professor Lescure's argument is open to the answer that the limitation of charges results in the *volume* of business of the concerns to which it applies being all the greater at a time of rising prices, and their requirements for capital extensions are likely to grow in proportion. If their net receipts were so encroached on as to involve them in real embarrassment, their capital outlay might indeed perforce be restricted. But the statistical data supplied by Professor Lescure

do not support that conclusion. He shows that in some cases profits have begun to decline before the price level, but not that they have become *less than normal*. They have merely begun to decline from an abnormally high maximum. For example, Professor Lescure points out that in 1907 the first month in which the gross receipts of American railways showed a diminution as compared with the corresponding month of 1906 was November, whereas the net receipts first showed such a diminution in July (p. 471). But the net receipts remained *very high* up to December 1907. And Professor Lescure insists (quite rightly) in another passage (pp. 217-24) that the recession of 1907 began in the second quarter of the year. He refers also to the crisis of 1929. But on that occasion gross and net receipts first showed a setback *simultaneously*, in October 1929, whereas the recession had already begun in industry in July.

On the other hand, the effect of rising costs on the prospects of new enterprises as such is a wider question than that of concerns subjected to a limitation of charges. A disproportionate rise of prices of instrumental goods is a characteristic of the active phase of the trade cycle.

"The flow of savings into industry constitutes the motive force of the modern economic machine. Savings are creative. Let savings be plentiful and not easily placed remuneratively, and they will be employed in industry. When they are employed in industry, the total consumption of commodities by industry is increased, with consumption, prices rise, with prices, profits, with profits, savings and therefore available capital" (p. 360).

In this passage Professor Lescure gives a hint of the vicious circle of expansion. Once prices begin to rise, profits and therefore savings are increased. The result is increased activity of the instrumental industries and a cumulative rise of prices, profits and savings.

How is the vicious circle to be broken? If there is a disproportionate increase in profits and savings, there is a disproportionate activity in the instrumental industries, and, when their capacity is strained, a disproportionate rise in the prices of their products. That is to say, there will be a rise in the prices of capital goods relative to the prices of consumption goods. That will tend to make investment less and less attractive, and, if unimpeded, this tendency should eventually result in a slackening of capital outlay. When capital outlay falls short of savings the surplus savings are either applied to an extinction of credit or held idle. A part of the demand for capital goods is thereby

annihilated, and the tendency to an indefinite expansion is checked

Professor Lescure's theory is that that is the decisive factor. But he has not proved his point. The disproportionate expansion of the instrumental industries is a consequence of the disproportionate increase of profits and savings, it depends upon *prices outstripping costs*. So long as wages lag behind the rise of prices, profits will continue high, and the same high profits that supply big savings will continue to make investment attractive. And there will not be an indefinite increase in profits and savings relative to prices, because, though wages lag behind prices, they do eventually rise, and, as fast as wages rise, the demand for consumption goods tends to regain its position relative to the demand for capital goods.

Further, the disproportionate demand for capital goods will tend to draw a portion of the swollen supply of savings from which it arises into an extension of capacity of the instrumental industries themselves. Between them, this extension of capacity, increasing the supply of capital goods, and the rise of wages, increasing the demand for consumption goods, might be expected to restore equilibrium.

There is no evidence at all that at times of activity the growing cost of capital goods does in practice act as a deterrent on investment, and Professor Lescure does not attempt to show that it does.

It will be observed that this theory of increasing costs of capital equipment in any case only offers an explanation of the *inter-ruption* of a progressive rise of prices. And it provokes the obvious question. If this is what prevents an indefinite rise of prices, are we to infer that without it an indefinite rise of prices would occur?

Surely an indefinite rise of prices cannot occur consistently with the gold standard. What has Professor Lescure to say on that subject? That brings us back to his treatment of the monetary theories. These he classifies under the heads of Metallic Money, Bank Notes, Excess of Credit and Deficiency of Credit.

"Metallic money plays a diminishing part in exchanges. It has numerous substitutes" (p. 382).

"Nowadays, if the 'currency principle' and the 'banking principle' are still discussed, we no longer discuss whether the issue of notes causes crises" (p. 384).

Metallic money and paper money being disposed of, credit

remains Professor Lescure draws a distinction between those theories which explain crises by an excess of credit and those which explain them by a deficiency of credit. The distinction is a false one. The active phase of the cycle is caused by an excess of credit, the depression by a deficiency. The two types of theory are one and the same.

According to the theory of the deficiency of credit, "at the end of a period of expansion the central banks, confronted with a diminution of their gold holdings, are led to raise their rates of discount or even to ration credit. Equilibrium is broken between the growing quantity of products and the quantity of money, metallic or fiduciary. The fall of prices results, and with it the crisis" (p. 391).

Doctrine simple, séduisante. Nous la souhaiterions exacte.

But no! "Credit assists the expansion, credit helps the depression to prevail. Money plays an essential part. But production, consumption, supply, demand play the preponderant part in the life of the economic world. To see in money the sole animator of economic life is to commit a sophism, the mere statement of which should be sufficient refutation" (p. 392). A revival of mercantilism!

"A period of expansion presupposes new needs to satisfy, and new industries to create. Materials, labour, savings, entrepreneurs are necessary. The entrepreneurs must have confidence. Money does not suffice to create this complex of conditions. And the abundance of money is incapable of provoking by itself alone the rise of prices which generates profits and kindles the spirit of enterprise" (pp. 392-3).

"Money and its movements are effect, not cause. It is the rise of prices that provokes the extension of the circulation, and not the contrary. It is the fall of prices, the crisis and depression that provoke its contraction, and not the contrary" (p. 393).

What does this really mean? It means that a rise or fall of prices *cannot* be either started or stopped by the control of credit, the gold standard cannot prevent an indefinite rise of prices. From time to time in his historical survey Professor Lescure mentions a credit stringency arising from a scarcity of gold. When he says that "it is the rise of prices that provokes the extension of the circulation," he would seem to imply that when that happens nothing the banking system can do will prevent or moderate the extension of the circulation, that when the Bank of England put the Bank Rate up to 8 per cent in 1847, or 9 per

cent in 1873, or 10 per cent in 1857 or 1866, it made no difference either to the volume or rapidity of circulation of credit, or to the price level. So far as any utility in correcting the inflation of the price level was concerned, Bank rate might just as well have been fixed permanently at 3 per cent and never altered.

Yet undoubtedly Professor Lescure would repudiate such a view. "The efficacy," he says, "of the policy of raising the rate of discount and its necessity are no longer disputed. The effect of the raising of the rate of discount on the liquidation of a crisis is one of the best established and best known theories of political economy" (p. 505).

He expounds the theory in an earlier passage. The crisis is marked by a diminution of demand, making a whole series of products unsaleable, it prevents the normal play of the balance of commercial and industrial debits and credits. Traders, unable to sell at all, or able only to sell at a sacrifice, must resort to credit to meet their liabilities. The rate of discount rises, the money in circulation increases, bank reserves diminish. The rise of the rate of discount reaches such a pitch that the trader and the industrialist find it to their interest to sell their products, even at a heavy loss, rather than to borrow (pp. 367-9).

When he comes to the discount policy of central banks, however, he interprets it in terms of an "external" credit crisis. When a country, in consequence of a fall of prices, cannot sell abroad, it has to export gold. The central banks lose gold, and raise their rates to defend their reserves. Traders sell at a sacrifice, and the consequent fall in the prices of securities and goods attracts foreign purchasers, and restores the balance of payments (p. 506).

Professor Lescure, among his remedies, advocates the holding of reserves of foreign securities, and the charging of a premium on gold in order to mitigate the rigours of credit restriction. Is he not here viewing his problem too much as a national problem instead of an international one?

The crisis is a crisis of falling prices. It is met by various countries raising discount rates with a view to depressing prices, and thereby intensifying the trouble for one another. Any one of these countries can find relief by allowing a premium on gold, and it can safeguard its gold reserves by selling foreign exchange instead of gold. But by preventing the outflow of gold, it throws all the greater burden on the reserves of the others.

Now clearly these *international* movements of gold are only one aspect of the crisis. If some countries are losing gold, others

are gaining it. How are these others to behave? They should be endeavouring to release gold by credit relaxation and low discount rates. Then central bank might supplement these measures by buying securities, or, still better, by buying foreign exchange. Indeed, when Professor Lescure recommends the accumulation of a reserve of foreign exchange, we may reasonably infer that this ought to be done when the exchanges are favourable and gold would otherwise be imported.

But Professor Lescure does not consider the case of those countries which are troubled with a superfluity of gold at a time of crisis. And for a good reason. At a time of crisis there is a *general* scarcity of gold. Those countries which are losing gold put up their discount rates because they cannot spare it. But even those which are gaining gold are themselves short of it. There is a general resort to high bank rates and credit restriction because the monetary circulation has outstripped the supply of gold.

This reliance on credit restriction to bring about a general fall of prices is not only "one of the best established and best known theories of political economy," but now that "metallic money plays a diminishing part in exchanges," it has become essential to the functioning of the gold standard. In each country the central bank has become practically the sole source of money, and upon its action depends whether money becomes unduly plentiful or scarce.

If "money" be taken in a narrow sense, Professor Lescure is quite right when he says that "money and its movements are effect not cause." But if changes in the monetary circulation are effects of changes in the price level, changes in the price level are effects of measures of credit regulation.

"Production, consumption, supply, demand play the preponderant part in the life of the economic world. To see in money the sole animator of economic life is to commit a sophism." But the puzzle of the "periodic general crises of over-production" has always been to account for economic adversity and distress at a time when the state of "production, consumption, supply and demand" indicates nothing but prosperity and activity.

"Profit," says Professor Lescure, "plays the part of the motive power of the spirit of enterprise." There must be a remunerative price level. Credit restrictions aim deliberately at reducing the price level and making it less remunerative. Trade depression represents nothing more nor less than the success of credit restriction.

It is unfortunate, especially in a fourth edition, that Professor Lescure's book teems with misprints. The mutilation of English and American names is of slight consequence. The omission of a negative (p. 370, line 4) is easily corrected by an attentive reader. The frequent presentation of statistics in thousands instead of millions ought to be no more misleading than the expression of prices by the ton instead of by the quintal (p. 321). But it does not conduce to clearness in the description of the crisis of 1929-30 to print 1930 instead of 1929 five times (pp. 319-21). And an algebraical exposition of Tugan-Baranowski's criticisms of Marx, which is in any case both slovenly and obscure, is not improved by two misprints (pp. 425-6).

The most dangerous misprints of all are those which occur in the body of a statistical statement. The preponderance of railway material in the steel output of the United States is illustrated by a table which has survived from the edition of 1910, showing a rise from 3,749,000 tons out of 13,859,000 in 1904 to 19,996,000 out of 23,362,000 in 1907. If the reader's suspicions are aroused, he will be able to calculate from the detailed data supplied that for 19,996,000 he should read 9,838,000. But when the growing gap between the general price index and that of metals rises from 10 points in 1909 to 22 in 1911 and 35 in 1913, the reader is only too likely not to observe that the latter figure ought to be 25. And how is he to guess that the reserves of the New York Banks in July 1893, which have been stated as \$5 millions (p. 132) ever since the first edition of the book appeared in 1906, should be corrected to \$95,000,000?

Besides misprints, the book is not free from inaccuracies. It is not correct to say that the output of gold from 1848 to 1856 "exceeded by more than one-sixth the value of the whole quantity of gold and silver existing in the world" (p. 44). Reference to Levasseur, whom Professor Lescure quotes as the authority for this statement, suggests that it should have been "exceeded one-sixth of the value."

In the particulars of brokers' loans in New York, it is misleading to translate "other banks," meaning banks outside New York, by *banques étrangères* (p. 311).

The British Government did not advance £28,000,000 or any other sum to the Bank of England in 1818 (p. 6).

The Bank Charter Act of 1844 was not suspended in 1890 (p. 513).

The New Survey of London Life and Labour Volume V London Industries, II (London P S King & Son, Ltd 1933. Pp xii + 435 17s 6d net)

The Industries of Greater London Being a Survey of the Recent Industrialisation of the Northern and Western Sectors of Greater London By DOUGLAS H SMITH, B Sc (Econ), Ph D, F R G S, with a Foreword by SIR RAYMOND UNWIN, Dr Tech C H (Prague), P R I B A (London P S King & Son, Ltd 1933 Pp xi + 188 10s net)

THE concurrent appearance of these volumes is timely. That of the Survey continues the treatment of London industries, commenced in Volume II, and deals largely with distributive work, as well as with productive industries. Most of the trades dealt with include a higher proportion of low-skilled work and of female labour than those treated in the earlier volume, though the Printing industry, which is now described, is probably the most highly skilled of the London industries. Mr Smith's interesting book starts to carry the industrial work of the Survey into the outlying districts of Greater London to the North and West of the Survey area. He deals with the triangle formed by the valleys of the Lea, the Colne, and the Thames, extending his treatment to Welwyn, Watford and Slough to the North, North-West, and West, respectively. He includes those districts of the Survey area like Willesden and Tottenham, which lie outside the County of London boundaries in these directions. His work in many ways fits in well with the Survey, and his careful, detailed treatment of the character and distribution of the trades with which he is concerned, shows well the nature and causes of the outward trend from Central London, which the Survey has also emphasised.

In Mr Smith's book the very large industrial unit is the less common. In the Western Industrial Sector, for instance, "in only one industry is there a concentration of manufacturing units comparable to that of the North," namely the motor industry. The feature of the whole area is the large number of trades, producing wide varieties of product, nearly all individually small, but often gaining the advantages of large-scale production through a high degree of specialisation in the goods manufactured or through assembling of parts manufactured elsewhere. The lists of trades in various areas bring out admirably their smallness and variety. Thus, in the Lea Valley and in the Wembley-Park Royal-Willesden area, the average per trade is under 450

workers, and in Slough it is about 150, the number of separate trades (*not* industries), as given in the lists, being 79, 71 and 47 respectively. This renders it unprofitable to manufacture locally the semi-finished products required by these trades. For the amount needed of any one such product is too small to justify this, and good transport facilities and high values in relation to bulk, render import from other districts easy and cheap.

Survey V follows mostly the lines of the earlier volume on London Industries, and well maintains the general high standards of the Survey. The Director contributes one more most stimulating introductory chapter, which greatly facilitates the reader's study of the volume, and admirably sums up the leading features of the industries dealt with. Chapters on individual trades contain some highly interesting descriptions of industrial processes, notably in dealing with mechanisation, as in the food, drink and tobacco, and in the chemical industries, though retail distribution, which has been less affected in this way, is also admirably treated. In one or two instances, possibly for reasons of space, the accounts, though clear and accurate, are less full, that of the manufacture of leather, for instance, hardly seems to bring out the great variety of the processes.

The present volume confirms generally the favourable tendencies previously noted, and specially emphasises the progress of welfare work, both in its protective and constructive forms, which appears specially marked in the trades now dealt with. Its progress seems in part to be a compensation for conditions of monotony resulting from mass production with semi-automatic machinery. Another interesting feature is the frequency of payment for holidays in these trades, in contrast with its relative infrequency in those previously dealt with. It is suggested that it is "a fair generalisation, though subject to exceptions, that holiday payments, like other amenities, are frequently regarded as a form of compensation for monotonous or disagreeable work." Previous evidence of "a high degree of success" in enforcing Trade Board wages is confirmed. "Evasion is highest in industries in which, like the fur trade, the unit of employment is smallest, in large-scale industries, like tobacco, it is negligible." In the fur trade indeed, the percentage of evasion is more than double the average, but the rise in real wages has also been marked—70 per cent in the case of women—since the Wage Census of 1906. Here, again, mechanisation appears to have helped by practically eliminating "the 'dressing masters' in leather, who worked at low prices by paying low wages." In retail distribution

there appears to be a certain tendency to industrial parasitism, where firms "will only engage girls living at home" Against this must be set cases where specially good conditions are found in retail establishments Trade Unions, though weak in many trades, seem to exert influence out of proportion to their numbers, as where big companies and Co-operative Societies, having agreements with them, set the general standards for a trade In Printing, where "Trade Unions both of workers and employers are exceptionally powerful," and weekly wages show very big increases, industrial relations appear to be specially cordial, and there has been "comparative stability of employment" Indeed, in spite of the relative rise in unskilled wages, unemployment has been less in the industries covered by this volume than in London as a whole

The present volume emphasises the displacements of labour by mechanisation General increase of female workers is reported, even in trades which are predominantly male Displacement of men, indeed, takes place in the main indirectly As a rule, women and girls find their chief sphere in highly mechanised industries, in ancillary occupations, such as bottling, labelling and packing, or in branches akin to the domestic, like laundries and retail distribution But often the development of these new occupations as women's trades reduces the chances of re-employment for men displaced from the old Similarly, Mr Smith, in an excellent "Comparative Study of Individual Industries," in London and in other parts of England and Wales, finds little evidence of direct competition between London and the North, and the work, as in the electrical and chemical trades, is sometimes complementary, London concentrating on the lighter and the North and Midlands on the heavier branches Nor is there much evidence of movement of firms from the North to London Development has been almost entirely by radiation outward from Central London, or by growth of new firms

The displacement of acquired skill by mechanisation is stressed The qualities required for most workers, it is insisted, are "steadiness and reliability rather than special skill in the old-fashioned sense" But the insistence on these qualities suggests a possible raising of the level at the other end of the scale, so that the workers possessing them can perhaps be regarded as ranking as semi-skilled, and reference to the general turn-out of certain workers, as approximating rather to that of attendants than of labourers, appears to support this view "A growing, though as yet not general, recognition of the vocational value of general

education beyond the standards of the elementary schools" is also reported

In many ways mechanisation favours improvement in conditions. The need to run elaborate machinery continuously reduces short-period fluctuations in employment, and at times it is possible to avoid casual labour at rush periods by running machinery at maximum speeds. The new conditions also, by involving planning, facilitate adequate provisions for the well-being of the workers, which was apt to be neglected in the haphazard growth of the older type of business. Often, indeed, there is deliberate and careful thought for the workers. Mr Smith too records that one influence leading firms to move out of London was desire to secure healthy, open environment for their staffs. Elaborate machinery again, facilitating and even necessitating frequent cleaning, has also proved favourable to health, and has done much to reduce dirty and unpleasant work.

Planning, also, in the outer areas has done much to locate factories with reference to the health of the population generally. Here again, as Mr Smith emphasises, there is a difference. Pre-war factories grew up haphazard, with not much thought of the influence of their work upon the surrounding houses, whereas more care has been taken recently, and there has been a tendency to concentrate factories in definite areas. Things are not yet always satisfactory in this respect, though the disadvantages are, in fact, mitigated since the industries of these outer sectors are mostly "clean" industries, generally free from obnoxious by-products. But both Sir Raymond Unwin and Mr Smith emphasise strongly the need of more regional and other planning, for this and other purposes. Some beginnings of it are recorded, as, for instance, in West Middlesex.

Mr Smith's book, though its area overlaps that of the Survey, makes a valuable beginning in the study of conditions in outer Greater London. His work is more general in character, and does not, like the Survey, attempt the detailed description of particular trades. But he has done valuable work in discussing the variety and distribution of the trades, and his chapter on the geographical factors at work is specially valuable, bringing out, for instance, their influence on expansion, and in determining which areas are industrial and which residential. An interesting point is the special localisation of the new trades, those of the Lea Valley mainly producing cheap goods for the East End of London and office requisites for the City, and those in the Western Sector being more concerned with more costly goods for the West End.

Thus, Mr Smith's work represents an interesting extension of the work of the Survey, and treatment of the other areas and of health and social conditions in the whole of outer Greater London would be well worth while. The Survey's new volume has once more produced an industrial study of high value, and the concluding volume on London Industries will be awaited with great interest.

N B DEARLE

Recent Social Trends in the United States 2 vols Pp xcv + 1568 (McGraw-Hill Publishing Co, Ltd 1933)

THESE two prodigious volumes, containing twenty-nine monographs, are the product of the President's Research Committee on Social Trends appointed by Herbert Hoover in 1929 under the chairmanship of Professor W C Mitchell. The Committee call this publication a "summary of the findings" they are also "publishing thirteen volumes of special studies and supporting data, giving in greater detail the facts upon which the findings rest". Most of the contributions in the volumes under review are from the pen of social scientists other than the members of the Committee, and twelve pages of acknowledgments to institutions and individuals serve further to indicate the co-operative nature of the effort. The Committee have attempted a summary and appraisal in their sixty-page Review of Findings, but of course no summary of a summary can give a very adequate idea of the wealth of data collected. Nor would it be judicious to pyramid the summaries still further by attempting to describe the contents in this notice. It must suffice to say that the volumes are a wealth of information of the most astonishingly diverse kinds.

If you have any reason to know you can find that the "*per capita* consumption of ice-cream has increased from 1.04 gallons in 1910 to 3 gallons in 1929", that "there are more than 20,000 women teachers in colleges", that the aggregate value of works of art in public and private possession is approximately 2 billion dollars, that "the most striking changes [in the American home] within the decade have taken place in the appearance of the kitchen and bathroom, that more money and more brains have gone into the appearance of these two rooms than into all the other rooms put together", that it is possible to list one hundred and fifty effects of the invention of the radio, ranging from "morning exercises encouraged a bit" to "development of fads of numerology and astrology encouraged", that "interest and belief in a life beyond death have dropped to a

fraction of the level which they held a quarter-century ago" in the periodical literature examined, that "osteopaths, who now number approximately 7,650," have incomes totalling \$42,000,000, while "chiropractors, who are, as a group, far more ignorant and incompetent" numbered at least 16,000 in 1930-31 and collected an annual income of approximately \$63,000,000 "

No selection can indicate the variety of information collected. Much of it is commonplace, much of it has no discoverable connection with any generalisation, and much of it goes to support generalisations which are themselves so trite that the cost of enunciating them must be a matter of grave concern. This is not to condemn the volumes. The evaluation of such a heterogeneous mass of material is not easy, even with the assistance of the Committee's own appraisal, which, as Mr Hoover says in his foreword, "sets forth matters of opinion." The terms of reference threw the emphasis of the report (again according to Mr Hoover) upon "elements of instability rather than stability in our social structure." It is true that the Review of Findings and the contributions show less complacency than was characteristic of pre-depression American economic literature, but the report cannot be described as predominantly critical or radical. Caution is rather the keynote, in spite of the Committee's confession that "astonishing contrasts in organisation and disorganisation are to be found side by side in American life" (xii). In discussing the quality of the population they declare that "the abilities of individuals shade down from competency to idiocy, and it is not at all certain that all low grades of mentality are caused by heredity" (xxiii). Here is timidity.

The all-important question of unemployment illustrates the conservative tone. They rank it with physical and mental illness as a "major cause of suffering" (xxxvi), and see the problem as one of "making the proper application of the principle of insurance." But there is no strong indictment of America for being a generation behind the enlightened European countries in this respect. The monograph on Labour (one of the best in the collection) points out that the majority of trade unions have "resisted compulsory unemployment insurance" and that employers have been "determined to prevent government participation in handling the problem of unemployment," but it says nothing of the attitude of economists. If the method of surveying periodicals used in the chapter on Changing Social Attitudes and Interests had been applied to economic publications before 1931, the Committee would have been compelled to call

for a revolution in economic opinion on this question. The belief was prevalent that unemployment in Europe is a problem *sur generis*, intimately connected with unemployment relief by the state.

Another case in which the facts cited do not paint a complete picture is that of race prejudice (pp. 591-2). It is deliberately restricted to the negro problem, although the existence of other prejudices is admitted. Any serious examination of the question, however, could not fail to single out the prejudice against Jews, which has been aired in the discussion of appointments to the Supreme Court and which still plays a considerable part in the choice of teachers in the universities.

Criticism on the ground of omission is, of course, too easy. The above is only to illustrate the slight conservative bias in a Report which is on the whole impartial. The effort to be judicial is perhaps partly responsible for the cautious and even colourless conclusions. To conclude that "the clarification of human values and their reformulation in order to give expression to them in terms of to-day's life and opportunities is a major task of social thinking" does not carry us very far. The Committee rightly reject all responsibility for producing a panacea: they "were not commissioned to lead the people into a land of promise." But they hope that "in the formulation of these new and emergent values, in the construction of the new symbols to thrill men's souls, in the contrivance of the new institutions and adaptations useful in the fulfilment of the new aspirations" this review of recent social trends may prove of value to the American public. They would have contributed more to this end if they had thrown some of their caution to the winds, and, even at the risk of being misunderstood, had given more rein to their critical faculties in describing the order which preceded the New Deal.

REDVERS OPIE

Australia in the World Depression By E. RONALD WALKER
(P. S. King Pp. 219 10s. 6d.)

THIS is an admirable account of the changing economic situation of Australia during recent years. It is both a description and an analysis. Dr. Walker has studied the views of Mr. Keynes, Professor Hayek, and others to good purpose: he has constructed from them an eclectic theory of the trade cycle which he applies with skill.

His chapter on the Boom before the Slump convinces the reader that some recession would have come even without changes

in world conditions. One point well made is that the rising tariff involved a greater expansion of bank credit than would otherwise have occurred. His suggestion that the high normal level of unemployment arose mainly from instability of demand deserves attention, for there is no greater authority on Australian unemployment. Yet he does not show that demand was less stable than in other countries, nor does he disprove the alternative explanation of relatively high and rigid wage-rates plus hindrances to the movement of labour between occupations.

The slump actually came, of course, through changes in Australia's relations with the rest of the world, the title of this book was carefully chosen. Australia had been exporting about a third of her material production. About two-fifths of her exports consisted of wool and about one-fifth of wheat. She was thus greatly influenced by the world prices of these two commodities. Dr Walker makes a careful study of the forces affecting these prices, he rightly ignores any effects of Australian borrowing or import duties upon her terms of trade, for they were swamped by other factors. The other vulnerable point of contact with the outside world was capital imports. This population of six millions had been borrowing publicly at the rate of £30 million a year.

The fall in export prices and the stoppage of long-term external loans created a transfer problem. In spite of greatly reduced wool and wheat prices, a slight excess of imports had to be transformed into an export surplus sufficient to pay some £30 million sterling a year of external interest. At first, Australian opinion rejected cost-cutting as impracticable, yet wanted to remain on the gold standard or at least near parity with sterling. Imports were curtailed by reduced purchasing-power, by drastic tariff increases and import prohibitions, and by the banks rationing exchange. Recourse was had to the sensible stop-gap of exporting gold reserves and to short-term external borrowing. Finally, the problem was solved with the help of a depreciated exchange-rate.

It is a pity that Dr Walker says so little about the elasticity of supply of exports, for the maintenance of their volume has been rather remarkable. Doubtless contraction in land products is difficult in the short run, and we know that there have been good seasons, that wheat-growing has been subsidised and that sugar and butter have continued to be dumped abroad. But surely some growers of wool and wheat must be very near marginal prime cost. Are fixed charges largely unpaid? Are wages of land-workers considerably lower than official records show?

Does the inevitable tendency towards capital consumption, of which some evidence is given early in the book, extend to such items as fencing? These are points on which information would be illuminating.

The repercussions within Australia of an annual loss of spending-power amounting to perhaps £70 million—reduced value of exports plus loan money no longer forthcoming—were alarming. Unemployment rose to nearly 30 per cent and large budget deficits seemed inevitable. From the turmoil, with Mr Theodore's scheme for creating credit held up by the Upper House of the Federal Parliament and Mr Lang repudiating public interest-payments in New South Wales, there emerged a Plan "which combines all possible remedies". The whole internal public debt of £556 million was converted from 5½ per cent to just over 4, taxation was increased and public expenditure reduced, fixed interest charges were reduced by law, wages were cut, and bank credit was sustained by selling Treasury Bills to the Commonwealth Bank.

It seems clear that Australia did turn the corner, whether permanently or not, in 1932. How is this to be explained? Dr Walker gives us a stimulating theoretical chapter, complete with equations, in support of his view that it was due mainly to the inflation, through the floating debt, of 1932. He grants that the wage-cuts of 1931 helped indirectly, since a given monetary dose of inflation is more effective the lower are money costs. Yet, he points out, for a year or so after the first wage-cuts there was no improvement. It might be urged that they were not large enough or that a succession of wage-cuts was needed, Dr Walker, on the basis of his theoretical discussion, rejects such contentions. The crucial point, he says, is how entrepreneurs behave. If wages are reduced, will they at once employ more men or will they be cautious and wait to see if the demand for their goods increases? If the latter, obviously employment and output can remain unchanged or fall. Thus, he urges, inflation is more likely than wage-reductions to promote recovery.

This seems a *non sequitur*. There is no need to press the view that the elasticity of demand for labour is likely to be well above unity during a slump. For whatever it is, surely the demand will be affected in exactly the same way by wage reductions and by inflation of the type used in Australia in 1932. (Inflation through public works might be another story.) Both make possible an increased margin for profits. If entrepreneurs refuse to expand under the stimulus of lower wage-rates, surely they will also refuse

to expand under the stimulus of lower interest-rates. Whatever assumptions one makes about their behaviour it seems unreasonable to argue that the one method will succeed where the other fails.

It is doubtful whether the inflation of 1932 would have promoted recovery in 1931 had it occurred then. Given the attitude of most entrepreneurs, the political situation would probably have prevented it. The subsequent displacement of Labour Governments, and the measures taken to balance budgets, promoted confidence and then the wage-cuts or the inflation or both—there is not space to argue—took effect.

Dr Walker leaves some questions unanswered. How exactly were interest-rates reduced by law? Did this do more than recognise the actual position while serving as a gesture which made wage-cuts less repugnant, and how did it affect new lending? From the end of 1929 to the end of 1932, wholesale prices fell by over 20 per cent, but the price of building materials rose more than 10 per cent. Why was this, and is it delaying recovery? Is a still lower exchange-value of the Australian pound desirable to create an exchange-reserve against mediocre seasons? To what extent would this, or lower costs, make potential exports—for example, of coal and manufactured food-stuffs—actual? But one wishes for more only because of the excellence of what one has.

FREDERIC BENHAM

The Taration of Income in India By V K R V RAO, M A ,
Assistant Professor of Economics and History, Wilson
College, Bombay (Longmans London and Calcutta
1931 Pp xvi + 327 10s 6d)

It is rather remarkable to find an Indian author beginning his book with the following passage "Like the introduction of the study of the English language in Indian education, the introduction of income tax in the Indian financial system is one of the few happy heritages of British rule in this country." He notes that the income tax was first tentatively introduced in 1860 that Lord Lytton refused to sanction its re-introduction in 1876, and that from 1886 it became a permanent feature of the tax system. He divides the history of the tax into three periods (1) the Period of Experiment, 1860-86, (2) the Period of Integration, 1886-1916, and (3) the period of Legislative Consolidation, 1916-28.

The book deals with the income tax from every point of view which would be of interest to the economist and the general

reader The first three chapters give us a concise history of the tax from its inception in 1860 to 1931, which is clear, readable and complete in essentials The remainder of the book is analytical and critical, beginning with the scope of the tax and a full discussion of the numerous exemptions, proceeding to examine the bases of assessment and the methods of computing income from different sources, and then stating various reforms proposed by others and some suggested by the author, all of which he considers from the theoretical and practical points of view

The Indian income tax has several rather peculiar features, due to the country being but partially industrialised and to the Hindu family customs Income arising from agriculture, whether rent or the profits of cultivation, has been exempt since 1886 from all income tax, mainly on the ground that agricultural incomes are heavily taxed by land revenue Hindu undivided families, which may consist of as many as three, or even four, generations living together in one house, maintained according to need out of one income, are taxed on the joint income according to a special schedule There is a tax of $6\frac{1}{4}$ per cent on limited companies, additional to the standard rate which has to be deducted from dividends This "corporations profits tax," imposed during the boom following the War, is now an unjustifiable burden on joint stock enterprise

After a full and thorough description of the treatment of special classes of taxpayers, and a chapter on the problem of double taxation, the author proceeds to outline his suggested reforms His proposal that the present relief of part of the Indian income tax on profits also taxed in Great Britain should be abolished is supported by reasons which seem to have no basis in abstract justice If the investment of British capital in India be discouraged, there will be, he thinks, the more opportunity for the profitable employment of dormant Indian capital The critic may well ask whether the opportunities would be found by Indian industrialists and, if they were, whether dormant capital would be attracted by them

India has a graduated income tax, and the author, after considering examples in foreign countries, proposes a new scheme of progression, which smooths out the jumps, and is clearly compared with the present progression in a diagram The author favours the taxation of large agricultural incomes, but he would like to have land revenue treated as income tax and graduated, so as to realise the principle of ability, were it practicable to

sacrifice so much revenue—a change which is not justifiable on grounds of theory or practice, so long as the land revenue is assessed on area cultivated. The book, which was published under the editorship of Professor C N Vakil, is full of useful information, and is well furnished with statistics in the text and in numerous appendices. Several of the author's proposals for reform merit careful consideration. The book is one which should not be neglected by any student of the Indian income tax.

H S JEVONS

British Public Expenditure, 1921-31 By JOSEPH SYKES (P S King 1933 Pp 388 15s)

British Budgets, Third Series, 1921-2 to 1932-3 By SIR BERNARD MALLET and OSWALD GEORGE (Macmillan 1933 Pp 576 30s)

PUBLIC expenditure has always received less attention from economists than taxation, for the simple reason that it is impossible to discuss expenditure without expressing, or implying, opinions as to the merits of the political policies upon which public money is expended. The subject will not, therefore, keep itself within the confines of the strictly economic. Mr Sykes cannot wholly escape this difficulty, and we discover, for example, that he would like to see less money spent on armaments, but the book shows commendable detachment and a readiness to weigh pros and cons which is not the less praiseworthy because it frequently leaves the reader unable to make up his mind one way or the other.

The first part of the book is occupied with a straightforward and business-like account of the history of public expenditure (national and local) in the ten years under review, classified under six main headings. This will be useful for reference. In Part II the author seeks to analyse each of these lines of expenditure with special reference to two considerations, namely, first, its general economic and social effects, and second, any "transfer" effects as between "Richer and Poorer."

In the third part of the book Mr Sykes attempts to summarise the conclusions which emerge from this analysis. This, however, is a task of almost impossible difficulty. He records, indeed, that in his judgment "no dire consequences have ensued for the national economy regarded as a whole" from the freer distribution of public money to which we have grown accustomed, and that the transfers of resources consequent upon the double process of taxation-cum-spending have had "profound effects of a highly

favourable character " But the attempt to support these propositions by elaborate quantitative analyses of the effects of taxation upon savings and of the incidence of taxation upon various classes of the community, as compared with the benefit which these derive from receipt of national debt interest or payments through the social services, demands so many qualifications and includes so many uncertain factors that one wonders whether in the end the author's conclusions (equally with the conclusions of others who have ventured into this field) rest upon much firmer foundation than general presumption. We know that saving and investment are not what they were in the days of good Queen Victoria, but when it comes to estimating what measure of responsibility for the change must be borne by the rise in rates of taxation, we are really only guessing.

One further reflection is provoked by Mr. Sykes' two concluding pages, in which he argues that there is a case for reducing the taxation upon reserve appropriations, bringing down "rigid wages" and making certain economies in the social services, mainly on the ground that these measures would be beneficial to the balance of trade. Is it not time that we made up our minds as to what we mean by prosperity? Mr. Sykes points out that his proposals would impoverish a large part of the public and would in consequence reduce our expenditure upon the import of goods for direct personal consumption, although the "real national income" would, he believes, be increased by the same token. If the real national income is increased, somebody must get that increase, and we have a right to ask who that somebody is, when he is expected to get that increase and what, it is presumed, becomes of it in his hands? In itself, to impoverish anybody is a direct negation of prosperity, and it is therefore the more urgent that all economists whose plans for prosperity involve making some people poorer should be particularly explicit as to when and where and for whom extra riches are thereby created. Even in these days there is no purpose in abstinence for abstinence's sake, though abstinence for due reward may be proper and necessary.

Rather an interesting contrast with Mr. Sykes' book is afforded by the final volume of the now familiar Mallet and George series of *British Budgets*—a volume, the publication of which Sir Bernard Mallet did not, unhappily, live to see. As before, the book consists of an historical analysis of the contents of every budget in the period covered, together with a summary of the budget debates in the House, followed, in Part II, by the

authors' own comments and criticisms, which include a most useful and masterly summary of the whole sorry tale of war debts and reparations. The authors show themselves far more concerned than Mr Sykes as to the possibly damaging effects of taxation on the modern scale upon the welfare of the nation as a whole. Indeed they are deeply imbued with the spirit of economy in the Gladstonian sense, and, quoting Lord Snowden, comment on the degree to which this conception of economy has faded from the minds even of "responsible statesmen." In their judgment, experience shows that the growth of expenditure is a matter which can be left to take care of itself. "There is no fear that a reaction against expenditure on social services will be carried too far," and it is to the social services and to expenditure upon the armed services (which last, however, as the authors point out, is necessarily conditioned by international policies in the matter of disarmament) that every Chancellor of the Exchequer must inevitably turn in his search for something upon which he can economise. With Mr Sykes they admit that only by guess-work can the part played by taxation in the causation of our present troubles be assessed, but, while conceding that "it is no doubt to the advantage of the community as a whole that glaring inequalities of fortune should have been to some extent corrected," they add a hint that the effect of present demands upon the taxpayer in checking savings and even crippling the public revenue itself may, in some future budget, "necessitate a revision of the whole system of direct taxation with a view to its reduction and readjustment." And they are, accordingly, at one with Mr Sykes in desiring such a readjustment as will give more favourable treatment to the reserves of companies and traders destined for new investment.

It remains only to add that the book is as lucid and readable as its predecessors, that, like them, it contains valuable tables and statistical material assembled in a most useful form, and that, notwithstanding the full analytical table of contents, the absence of an index is greatly to be deplored.

BARBARA WOOTTON

The Triumph of Mediocrity in Business By HORACE SECRIST,
Ph D (Bureau of Business Research, North-western University 1933 Pp 468)

DURING the past decade Professor Secrist has made extensive studies of the efficiency of management of trading and banking firms in the United States. His findings have been published

from time to time by the Bureau of Business Research of Northwestern University. The standards used for measuring managerial efficiency both in this and in the earlier studies have been the customary ratios such as gross profit margins, percentages of net sales absorbed by different types of expense, and profits on investment. In all the previous publications, although factors affecting efficiency have been the principal topics considered, prices and the social implications of the facts discovered have come in for examination.

Early in these investigations it was found that with the passage of time, both efficient (superior) and inefficient (inferior) firms became more like the average or the type for the sample of which they were a part. It is this "regression to type" of the superior firms that Professor Secrist examines more thoroughly in the book here reviewed. The "triumph of mediocrity" means, then, that if the accounts of a sample group of firms are followed through the years, the superior firms tend as a group to lose their pre-eminence and become more like the average. This statement does not mean, of course, that every individual firm may expect this experience, nor does it mean that the absolute efficiency or productiveness of the superior concerns necessarily declines.

The book falls naturally into three parts. The first three chapters serve to orient the subject and to state the general conclusions. The last two contain the author's proof that the tendency to mediocrity observed when studying the operating accounts of business is not found in certain other types of data. The intervening chapters, which make up the greater part of the book, present the factual material and the analyses used to prove the tendency to mediocrity. The businesses from which the facts are drawn include retail hardware and clothing stores, department stores, wholesale grocery concerns, banks and railroads. Space does not permit a description of the data or of the statistical methods employed. To the reviewer both appear to be adequate. The tendency to "mediocrity" as defined has been established.

The significance of the findings is not entirely clear. As the author observes (p. 1), in many other kinds of human activity repeated trials bring proficiency. It may also be added that superiority coupled with striving and practice usually results in a maintained pre-eminence. But in business it is apparently otherwise. As stated in the book (p. 9), common sense would lead us to expect this difference. Unusual profits must disappear if competition is effective and the sources of those profits must

also vanish or become the common property of competitors. The businesses investigated are among the most competitive—railroads excepted. The tests of management, to repeat, are not capable of showing absolute progress or decline in productivity. Hence the implication (p. 38) that the failure of the superior firms to maintain their position indicates a defect in the competitive order seems not well-founded. Favourable profit situations, even such as arise from low expense ratios, are not always socially beneficial nor are they always the results of careful planning or a wise application of resources to production. Moreover, as Professor Secrist is careful to point out, the nature of the study precludes taking account of the progress or decline of new firms just as it does the course of those that fail. New firms or new types of organisation are often very profitable—show favourable operating ratios—soon after their establishment but fail to maintain the pace thus set. The history of the chain stores in the United States is an example. Hence, as the reviewer sees it, there is nothing in the book to prove that costs may not vary from low-cost to high-cost firms by a considerable amount and that this difference may not persist. From numerous scattered statements one infers that this point would be admitted by the author.

The book is replete with facts, especially about merchandising concerns in the United States, compactly set out and conveniently analysed. These facts reveal many interesting conditions about business during the (chiefly) post-war years which cannot be noted here. The author has apparently tried to assemble as much data material as possible to support his conclusions and to apply a large number of tests to his statistical material to forestall criticism. Although these methods do not make for easy reading they inspire confidence in the results.

F. B. GARVER

University of Minnesota, U S A

British Industries and their Organisation By G. C. ALLEN
(Longmans Pp. x + 338 10s. 6d.)

AN important part of the work of economists has always been to observe the changing progress of productive effort in different regions, and to call attention to the interconnections and repercussions which the busy participants may need to take into account, but which they cannot be expected, because of their preoccupation with particular business technique, to perceive for themselves. There is a tendency to expect economists to do

more than that, and to pass judgment on the decisions which business men take in the conduct of their affairs. Cotton manufacturers in Lancashire order their businesses differently from those of America or Japan, then scale and methods of operation are not the same, which of them is wrong? It is becoming an acid test of the serious student in this difficult field of study to notice whether he declines to pass judgments of this sort, but recognises rather the relativity to time and place of all cost structures and price relationships and sets out to examine how such differences as exist do, in fact, arise and persist. To attempt more is to pretend to an intimacy of knowledge of particular price relationships and specialist industrial technique which few detached economists can hope to acquire and to maintain.

It is a special merit of Professor G. C. Allen's refreshing study of British industries and their organisation that it contains few examples of these hasty, ill-informed opinions. Most of those which he does include are citations from the findings of Royal Commissions and of committees which wish to advocate a "policy" for an industry. After quoting them, Professor Allen generally proceeds to discover "other more fundamental reasons" for the disparities which exist between British and foreign organisation and methods of production, reasons which will probably prove more satisfying, to those who do not desire size for its own sake, than all the hypotheses which spring from the assumption that none but fools are business men in Britain. The desirability of larger units in the coal industry is normally an unargued assumption, but Professor Allen emphasises the part played by the merchant in blending the output of different pits in order to suit particular markets, and deprecates "hindrances on his ability to select the coal he requires" (A more critical analysis of the Coal Mines Act would surely have been justified here.) The smaller units in the British iron and steel industry, compared with those of Germany and the United States, are shown to be evoked by the peculiarities of conditions of supply and demand in Britain. "If, as is not improbable, she devotes an increasing proportion of her iron and steel capacity to the manufacture of specialties, then the small firm, like the small plant, may retain its importance." In his analysis of these industries, and of the engineering (including the motor) industry, Professor Allen's rich store of technical knowledge is adequate to explain why what is most imposing to the lay observer is not necessarily most appropriate to the market situation in which British manufacturers find themselves. It is significant that in his discussion

of the cotton industry, in which Professor Allen tends to the popular, but for him unusual, conclusion that business men have failed in Britain to provide themselves with the most appropriate plant, and need to be coerced by outside interference to run their businesses differently, the examination of technique is scanty and unconvincing. There is still much more to be said in favour of specialised spinning firms, using the more adaptable mules, and separate manufacturers, operating ordinary looms, in Lancashire, than there is for a universal adoption of ring spindles and automatic looms by integrated firms on the American pattern. Professor Allen's account of "weak selling" in this industry, moreover, hardly convinces one that firms which must pay interest as well as prime costs will be able for long to undercut those that need not pay dividends.

The staple industries are still widely regarded as homogeneous groups of firms producing broadly the same manufactures under conditions so broadly similar that common interests emerge. Professor Allen's detailed analysis of each of them brings out the real diversity, both of type and of interest, which distinguishes the constituent businesses. Little benefit is therefore to be expected from his attempts to decide whether, within these "industries," knit together by accident of language rather than by economic similarity, the decline in one class of production, such as in pig iron and crude steel, is or is not offset by an improvement in another section, as, for instance, the production of special finished steels. Re-absorption of displaced workers is increasingly likely outside the "staple industry" in which they become unemployed, rather than in another branch within it, if the section in which they were formerly employed fails to re-adapt itself to changed conditions. Professor Allen repeats, somewhat uncritically, the frequently-made contention that when a change occurs in productive technique, the older seats of an industry are handicapped, and that British industries suffer from this disadvantage (cf especially pp 3, 16, 42, 62 and 93). The exhaustion of mines is clearly a special case. In manufacturing industry, it can hardly be assumed that, in the absence of monopoly, new entrepreneurs will never find it profitable to commence operations in the older districts. In fact, so long as "external economies" are available, they may be expected to prefer that location, other things being equal. New processes certainly tend to be invented and developed by the most skilled members of an industry, who are generally to be found in the older seats, as well as by amateurs elsewhere.

Two chapters on the general post-war trend and on recent changes in structure conclude this useful account of the British staple industries

ARNOLD PLANT

Modern Industry and the African Edited by J M DAVIS
(Macmillan Pp 425 12s 6d)

THIS is an inquiry made on behalf of the International Missionary Council into conditions on the Central African Copper Belt by a "team" led by Mr Merle Davis. Endless differences in detail make piecemeal investigations of this sort desirable, but the survey loses a little for want of comparison with less complicated parts of Africa. Though intensified on the Copper Belt, the essential problem is the same in most parts. In Europe the Industrial Revolution grew directly out of the past. But in Africa rapid change imposed from without on a backward people is forcing these primitives through their Revolution in a generation. For want of organised government, of education, of ordinary amenities of hygiene and sanitation in what is often a deadly climate, with inefficient agriculture and very often inadequate, insufficiently varied diet, Africans are badly placed for adaptation to the demands made upon them by this inevitable contact with Western civilisation.

To remedy these defects is in any case beyond the power of Europeans alone, but the capital required is sometimes obtainable by a short cut, the exploitation of mineral rather than of agricultural resources. African mining has its critics. The Rand, and even more strikingly the Katanga Province of the Congo, show the economic advantages of mining as a means to development as well as its human dangers. Mr E A G Robinson's analysis of the economic situation in Northern Rhodesia will more particularly interest readers of this JOURNAL. His first concern is the just balance between rural and urban which is essential for the foundations of the new political structure which is being evolved. Here he corrects alarmist impressions. Wage-earning has become a habit, virtually essential, and in a normal year there may be over 100,000 Northern Rhodesian natives—nearly 10 per cent of the population—in gainful occupation of some sort. Yet the links of the vast majority of these workers with their homes on the land are still intact. The labour needs of the Copper Mines, as estimated in a particularly valuable analysis of the economic significance and prospects of the mining industry, he puts at no more than some 16,000 per annum. The great issue of policy is "stabilisation," i.e. the

practice deliberately followed in the Belgian Congo of encouraging permanent urbanisation of mine-workers and their families. While mining may be too insecure to provide a permanent basis of life for large numbers, West African experience would suggest that some such division of labour is essential to economic progress. Mr Robinson shows how, without improved communications, Northern Rhodesian towns will, as now, collect hangers-on rather than provide a market-centre for the rural community. He also rightly touches on the strangling effects of a currency where the lowest unit is the "ticky" (3d), this view is borne out by the success and popularity of the tenth-of-a-penny coins in the village markets of the West Coast.

The merit of the book is its fresh straightforward account of the facts as they are, including deformities which many familiar with African conditions are in danger of missing or condoning. The defect is perhaps a disposition to accept prevailing views too meekly. Mr Merle Davis demolishes in his stride, let us hope once and for all, the old fiction that a mission-educated African is an African "spoilt," and there is much else of value on agriculture and the like. But we might have looked for a less fatalistic acceptance of the advantages of cheap labour, and of the policy of penning Africans in "Reserves" (as only recently adopted by Northern Rhodesia). A missionary inquiry might also have made more of the fundamental problem of health, which has only two scant index references. Ill-health alone is almost enough to account for African backwardness. The typical African is not the lusty Zulu warrior of tradition, but rather the under-nourished, malaria- and parasite-infested unfortunate who on the Congo mines is systematically put through a month's health course and gentle training before being turned on to full work.

The desirability of various "types" of education, adapted (by experts) to suit (expert) ideas of varying African needs, is a little questionable, and Mr Davis at least sees the possibilities of adult education. The aim should above all be to teach the African how to learn. Some of the political doctrine about "Indirect Rule" is also questionable and might well have laid less stress on the importance of the *chief*. There is a very strong revolt among educated Africans against being merely thrown back into tribalism and, as all the writers grasp (especially Professor Coulter in Chap VII), the biggest fact in modern Africa is the emergence of this class of westward-looking individualists, who remind one rather of our own Renaissance. W M MACMILLAN

Russia in Transition. By ELISHA M. FRIEDMAN (Allen and Unwin 1933. Pp xxxiv + 614 21s)

IF one is impressed by the weight or price of a volume, the legend on the dust-cover, masses of figures and a complicated table of contents, and if one accepts without question the opinion of publishers and authors as to what is of scientific value, one may possibly evaluate this book as a serious contribution to economic science. The book is called, in a sub-title, "A Business Man's Appraisal," and is described on the dust-cover as having been written "from the view-point of the unbiassed and skilled economic analyst." Such contradictory descriptions of the authorship are some clue to the contents of this enormous conglomeration of snappy generalisations, inaccuracies and statistics.

The book was written under the following conditions. The writer "visited Russia during part of July and August of 1930" (p viii), where he "spoke in Russian, through an interpreter" (p ix). The book, he writes, came into existence in the following way—"Upon my return there were many inquiries by friends. Some asked for a memorandum of my trip. I began to write it and found that it grew in the process. Ultimately the report grew into the present volume" (p viii). Finally, we may add on our own initiative the book was published in England in 1933, approximately three years out of date.

In spite of his own and the publishers' declarations to the contrary, the writer is not free from certain prejudices in approaching his subject. After several years of crisis he confidently writes that capitalism "is increasingly efficient" (p 45), in implied contrast to the U.S.S.R., and he has certain ideas concerning (1) the nature of Bolshevism, (2) the necessity for comparing the Russian with the French Revolution, and (3) the Russian character, which, while anything but accurate, are very representative of a certain type of foreign observer. A flair for rash generalisations, an obsession for rhetorical questions, and a leaning towards the sensational rather than the accurate, these are the qualities which go to the making of so many "studies" of the "New Russia," and they are found here in all exuberance.

Part of the inaccuracy of the book can be explained, but not justified, by the fact that the author was last in the U.S.S.R. in 1930. Thus, the statement that "The great department store in Moscow, Mostorg, is practically bare of merchandise. Instead of goods the windows contain busts of Lenin or placards carrying revolutionary propaganda" (p 193), while true three years ago, is not true to-day. But it appears in the book in the present

tense But other inaccuracies, such as the statement that in addition to the five annual public holidays which were decreed in 1929 there are now three more, subsequently added, have no justification, and no source is given to justify such statements

The lack of any adequate standard of judgment on the part of this writer is well illustrated by the following remarks —“ M Molotov based this pronouncement on the imaginary Gosplan increase (of production) of 38.3 per cent for 1931, and on the real pre-war average annual increase of 2.6 per cent ” (p 102) The Soviet authorities accepted Professor S. N. Prokopovich's estimate for before the war as correct Professor Prokopovich, however, does not accept the Soviet figure for 1931 as correct The author of this book, without any further discussion or sifting of the evidence, refers to Professor Prokopovich's pre-war figure as “ real ” and the Gosplan's figure as “ imaginary ” So much for his faith in Soviet statistics And yet, twenty-three pages further on he writes “ Has the Five-Year Plan actually worked in Russia ? Generally speaking, the quotas are being realised ” (p 125) Such inconsistency does not enhance the value of the book

While correctly attacking attempts to translate prices and wages direct from roubles to dollars, Mr Friedman does not hesitate frequently to do so And having criticised those who have translated at the official rate of exchange he frequently does so himself, as well as also taking the unofficial “ black ” exchange rate that prevails in Warsaw and Berlin This is, of course, still less reliable, since it has no relation at all to purchasing power, as it is not allowed to import the roubles so obtained into the U S S R They represent cash taken out by those leaving the country, found completely useless, and therefore sold off at a nominal price, to be smuggled in again in small quantities by a few of the more venturesome tourists, rather as a bottle of eau-de-cologne is frequently brought to England from France by a week-end tripper To take such a rate of exchange as a measure of purchasing power parity is obviously utterly absurd

Nowhere in this book is there any useful material, statistical or otherwise, that has not already appeared in English While there are hundreds of references, they are rarely backed up by an actual quotation, so that it is impossible, without great trouble, to check the writer's interpretation of the material he professes to be quoting Much of what is said, which rests on the author's own experience in the U S S R, is completely out of date We may confidently recommend those who are interested

in Soviet affairs not to wade through the six hundred pages of this tome in search of new material or balanced judgments about the course of current Soviet development

P A SLOAN

Moscow,
August 1933.

State Socialism in Victoria By F W EGGLESTON (P S King
1932 Pp 346 15s)

THIS is the book of a disillusioned man From 1924 to 1927 the writer occupied several ministerial posts in Victorian governments, including those of Minister of Railways and Minister of Water Supply During this time, he says, " I was converted from a strong advocate of public ownership and operation of all common services to the view that under present circumstances the conditions for the successful public operation of many of these services do not exist in Victoria "

He gives a well-documented account of the results of all the chief public services in Victoria Undoubtedly most of them have not been financial successes By 1929, out of £34 million invested by Victoria in closer settlement, £10 million was " hopelessly lost ", " the Victorian railways have been established over seventy years, and only in seventeen years have they shown a balance on the right side ", and so on

There are well-known retorts to facts like these Private business also has its failures Money spent publicly may raise productivity and real incomes in ways not reflected in the accounts of the undertakings A community may pursue aims, such as promoting rural settlement or diminishing inequality, which involve " unremunerative " expenditure The writer brushes aside such retorts He is speaking of what he knows, he has looked waste and folly in the face Some of the details make interesting reading

He does not blame the officials, indeed he has only praise for them He finds the main trouble in " a failure of the individual citizen in his relation to the State " Railway workers, controlling perhaps 100,000 votes, exert political pressure for better conditions, wheat-growers insist on lower freights, and the result of all the different pulls from interested parties is unco-ordinated and unwise policy " Victoria has succeeded only where it has taken control out of the hands of Parliament " and transferred it to a statutory corporation with financial autonomy

Yet would the wider adoption of this device have been a

complete solution? I think not. Australian policy seems to have had two fundamental defects. The first is that the means adopted have not been suited to the ends desired. Thus the main end has been a higher standard of living. The widespread belief that one path to this goal is "the full utilisation of natural resources" has led to schemes of closer settlement, to railway lines which have never paid, and to projects for extracting any valuable minerals known to exist. Even responsible statesmen have not understood that greater production per head would come from leaving some resources unused than from public developmental schemes which private enterprise would not touch. The second defect is that conflicting aims have been pursued. For example, Australia has tried both to foster manufacturing and to place more people on the land. The result has been a kind of tug-of-war between the tariff and public expenditure on inland transport, irrigation, and similar objects. Perhaps these defects partly explain why one of Victoria's leading statesmen is now convinced that Australia should make some return towards *laissez-faire*.

FREDERIC BENHAM

The Australian Price-Structure, 1932 Edited by E. O. G. SHANN and D. B. COPLAND, C. M. G. (Sydney: Angus and Robertson) Pp. 253. 5s.

It was a happy thought of Professors Shann and Copland to select and publish speeches, statements, reports, and other documents illustrating the movement of opinion and events in Australia. This collection, like the two previous ones, is well chosen. It covers the year November 1931 to November 1932 and deals mainly with budgets, monetary policy, and trade policy.

The year under review is described in the Introduction as one of consolidation and perhaps of a little uphill recovery. Definite progress has been made towards balanced budgets, this goal must remain the "central principle" of policy. Probably even advocates of inflation would agree, for the success of an unbalanced-budget policy must depend largely on the mental reaction it creates and this in turn upon the record of the country concerned. During the slump the public floating debt has been greatly increased and the volume of bank credit thereby maintained, the editors think the time is not opportune for any sharp restriction of Treasury Bills. Their reminder that Australia has been helped by a run of good seasons is very necessary, it could well be urged that adjustment should go further before the future

can be faced with confidence. There seems to be a lack of enthusiasm in Australia for the Ottawa agreements

FREDERIC BENHAM

Co-operation and Charles Gide Edited by KARL WALTER
(London, P S King, 1933 Pp 178 8s 6d)

THIS is a symposium to Charles Gide, the Grand Old Man of French Co-operation, who died on March 16, 1932. Very appropriately it consists of two parts (1) A series of appreciations by his colleagues, by the editor Karl Walter, the present secretary of the Horace Plunkett Foundation, and by Charles Rist, William Oualid, Bernard Lavergne, A Daudé-Bancel and Louis Tardy, and (2) the papers of the Paris meeting of the International Institute for the Study of Co-operation—an association organised by Gide at the end of his life.

From 1921 to 1930 Gide held at the Collège de France a chair of co-operation which was established in his honour by the co-operators of France. Each year he gave a different course, and published the results in a series of small books, among which may be mentioned in particular *Co-operation Abroad (England and Russia)*, *Co-operation in the Latin Countries*, and *The French Co-operatives during the War*. These are of high value for the study of the co-operative movement since 1914.

Gide was an idealist, with a catholic and social mind, yet at the same time he was a profound thinker. He did for France, and very much at the same time, what Marshall did for England. He rescued economics from the doctrinaire aridities of individualism. "Co-operator because he was Protestant and idealist, social encyclopædist because his heart and mind were always awake" (p. 62)—so he is summed up by Prof. Lavergne, on whom Gide's mantle has fallen. It is, however, a flaw in Prof. Lavergne's estimate that he omits all reference to Marshall's masterly presidential address to the Congress of the Co-operative Union at Ipswich in 1889. We are invited to believe as a matter of doctrinal history that Mrs. Sidney Webb in her book of 1891, *The Co-operative Movement in Great Britain*, and Gide in his various lectures of that period were the first to formulate the doctrine of consumers' co-operation. Mrs. Webb was certainly the first to come out strongly against workers' co-operative production, and she did that side of the co-operative movement (many of us think) less than justice. But between Robert Owen and either Mrs. Webb or Charles Gide there were important writers like Dr. William King of Brighton, G. J. Holyoake, Vansittart

Neale and Marshall himself, who appreciated and evaluated the purpose and achievement of the co-operative stores and their federal wholesales. It is quite true that these men considered producers' co-operation to be an integral part of the co-operative movement, but can you claim to be the author of the doctrine of consumers' co-operation merely because you are the first to assert that consumers' co-operation is the only sort, or of necessity the superior sort, of co-operation? The old feud between producers' and consumers' co-operation has lamed co-operation in its fight against competitive capitalism. Gide was catholic. This was the finest side of his work. He wanted co-operation to succeed in every land in the way that was most congenial to it, and this desire was sometimes at variance with his philosophic preference for the co-operation of consumers. He, therefore, gave his loyal support to the International Co-operative Alliance. He hated national war, as he hated economic war.

Gide was social. One might almost say that he was a social economist rather than a political economist. His *Principles* have been translated into English and read by thousands, as well as by tens of thousands on the Continent. He is mentally less exacting than our own classics, but his main attraction was that he tried to weave his co-operation into his economics and to present his readers with a co-operative economics. Professor Laverne is following in his footsteps here by enlarging the conception of consumers' co-operation to include co-operatively owned public utilities (in the French, *régies co-operatives*). For this is the difficulty of a co-operative economics. Co-operation covers only a small part of the economic scene. Co-operators may hope to transform ultimately the whole of economic society, but at any given time our economics, if it is to be useful, must interpret our economy as it is. I have just returned from a visit to the co-operatives of Paris. They are important, but it would be absurd to pretend that they constitute the main element in the economic life of Paris, and I sometimes wonder if those who claim that co-operation can do everything are really advancing its cause.

Meanwhile, this book is to be highly commended. The papers with which it closes discuss problems of profound significance to the agricultural and industrial economy of Europe and the Tropics. All of them are good, and two stand out. "Relations between Agricultural and Consumers' Co-operative Societies," by Dr. Karl Ihrig of Budapest, and "Co-operative Methods in Tropical Countries," by C. F. Strickland, I C S.

C. R. FAY

The Philosophy of Henry George By GEORGE RAYMOND GEIGER,
PH D (New York Macmillan Company, 1933 Pp xiii +
581 15s)

PROFESSOR GEIGER has given us an interesting and readable account of the work of Henry George, together with a critical appreciation of his position in the world of thought. The public and even the students of economics are apt to think of Henry George—when they happen to remember him—only as the originator of an unpractical and discredited theory of taxation. Professor Geiger is concerned to show him as a philosopher, a man indeed of a single idea, but an idea which broadened until it became a comprehensive social philosophy. Poverty, though apparently an economic phenomenon, is an ethical and philosophical problem, and it was, in George's view, the failure to appreciate this connection, and the consequent divorce of economic questions from ethical considerations, that were responsible for the very small measure of progress hitherto made by mankind. The reconciliation between economics and ethics gives George no trouble. On the contrary, his simple economic solution provides a ready starting-point for his philosophical theories. For man, he holds, freed from the degrading effects of insecurity and want, will naturally develop and promote a perfect state of society. In this respect George seems to differ from other idealists only in the simplicity of his remedies and the directness of his short cut to perfection.

Whether this is the conclusion which Professor Geiger would wish his readers to draw is not quite clear. The volume, which is lengthy though never tedious, traces the growth of George's economic thought, and shows how neatly his system of land values fits into the theories of the classical economists, whom, as it happens, he had not read until after the formation of his own doctrines. A chapter on "George and Socialism" shows how the orthodox socialist necessarily regarded George's solution as partial and inadequate, while in the latter's view, socialism missed the true inwardness of the problem it attacked, and proved itself destitute of any central or guiding principle. George is credited with the spectacular conversion to his views of Tolstoi and Mr Bernard Shaw, he is proved to have exercised considerable influence on the thought of Mr Sidney Webb, Mr Tom Mann and other British reformers. In America, on the other hand, there is a disappointing lack of connection between his teaching and actual social reform.

Professor Geiger has succeeded admirably in his presentation of Henry George as man, economist and philosopher. The

passages quoted from *Progress and Poverty* and from later works are effectively selected and well adapted to illustrate the vigour, eloquence and sincerity of George's exposition and the remarkable and enduring charm of his prose. The reader will easily accept the connection so clearly established between economic and ethical problems. No thoughtful student to-day would question either the degrading effects of poverty or the injustice of private appropriation of the unearned increment of land values. But there is missing from the volume any attempt at critical estimation of George's universal economic panacea. The land does not bulk so large in the thought of to-day, and Henry George's attack on this special department of privilege, unless it is to be regarded as a matter of merely historical interest, might well have been more adequately discussed. Professor Geiger does no more than quote very briefly and with little comment the criticism of a few latter-day economists, but perhaps he will give us another volume on this aspect of the question.

H REYNARD

The Industrial Crisis Its Causes and its Lessons By LIEUT - COL K E EDGEWORTH (George Allen and Unwin 1933 Pp 208 5s net)

READERS of the ECONOMIC JOURNAL will be glad to welcome this little book by a cousin of their late Editor. Lieut-Col Edgeworth gives an outline of economic theory and its application to the conditions of the present depression, partly for the information of the non-technical reader and partly in the hope of assisting to create an intelligent public opinion on these matters. He seems to have taken pains in his own study of the subject. His treatment is not that of an amateur, and he has wrestled with the *Treatise on Money*, accepting its conclusions on the whole—further evidence of the influence which this work is exerting.

Most of the book is an account of tendencies towards disequilibrium and the mechanism by which they are or are not corrected. The author considers that fluctuations in the volume of foreign loans and in the active circulation are the most important. Towards the end he makes a number of suggestions of some interest—for example, that the economic system should be "stiffened" (in the engineering sense) against all oscillatory movements, while forcing adjustments to permanent changes in the situation. The difficulty which seems to be facing the world at present is that the second kind of movements are impeded,

while nothing is done to prevent the first : it is exceedingly hard to decide which is which in time for the decision to be useful. He also suggests that much more control should be exercised over foreign investments, and in particular that long-term loans should only be made to countries which make goods that the lending country is prepared to use. Most economists would agree with him that foreign lenders have been very rash and indiscriminating, though they will not be so optimistic about the future. Thus on p. 187 he says, " Bankers and economists should have warned the politician of the danger " (in the foreign lending situation before the slump). Bankers and economists will not agree, nor politicians pay much attention to them if they do.

The author's suggestions for the restoration of the volume of investment in order to increase the active circulation are too cautious. If the budget is to remain balanced and all public expenditure must supply " real needs " (p. 195), we might as well wait until a depression ends from its own expansionist forces. Mr. Keynes has put the case much better than this.

The book, though interesting, is written in a somewhat disjointed manner, which will make it difficult for the lay reader to appreciate, while it is mostly on ground already familiar to the professional economist.

R. L. HALL

*Trinity College,
Oxford.*

Product Money By SIR LEO CHIOZZA MONEY (Methuen Pp. 172. 5s.)

IF we may describe as having a monetary crotchet a person who, being unable to " pierce the monetary veil and see what is happening in terms of real goods and services," blames the present currency system for all sorts of non-monetary troubles, then Sir Leo Chiozza Money has in this book abundantly vindicated his claim to be regarded as such a person. He is satisfied that our present distresses are due not to the World War or tariffs or capitalism, but to the absurdity of our monetary mechanism. What is wrong is that the purchasing power which we use for buying consumption goods and services takes the form of a generally circulating medium, and that the possession or acquisition of it in no way pre-supposes any productive activity. And he advocates the substitution of a system of notes or certificates to be issued against productive work, and to be destroyed as soon as

they are exchanged against consumption goods. The following are the chief benefits which he expects from such a reform.

- 1 The search for profits will be eliminated, nobody will have money who does not do useful work
- 2 Poverty will be eliminated, all who do useful work will have money to spend
- 3 Over-production will be eliminated, no more coffee will be destroyed nor sardines thrown back into the sea
- 4 The wastes of advertising and inefficient distribution will be eliminated
- 5 Unemployment will be eliminated
- 6 The Trade cycle will be eliminated
- 7 The burden of taxation will be enormously lightened
- 8 International trade will be put on a rational footing

There is no need to examine here the analysis whereby the case for "product money" is established—partly because it is in itself so extremely sketchy, partly because the hosts of previous proposals of this type have so often been faithfully dealt with by economists, but most of all because Sir Leo himself is perfectly aware that a mere monetary reform will bring about few if any of the above list of desirable results. In this respect he is less logical than the majority of his fellow-heretics. For they as a rule really believe that monetary wrongs can be righted by monetary remedies. He, on the contrary, presents us with a formidable list of supplementary proposals, involving in effect the complete reorganisation of our economic life. Industry is to be run by Guilds, there is to be National Planning—"a matter of easy accomplishment for so small an area as Great Britain" (p. 107)—international trade is to be centrally controlled, and so on.

And indeed some of these proposals may be excellent and might lead, if successfully carried through, to a better standard of life for our poorer classes. But in that case one further reform would be necessary—to drop the absurd and exploded system of labour notes or product money as the basis of the national currency.

L. M. FRASER

*The Queen's College,
Oxford*

Gold By various authors (The "Times" Publishing Company, Ltd. Pp. 238. 6s.)

THIS useful survey of the gold question includes the technical problems and geographical distribution of mining, coinage, the

bullion market, the Bank and the Mint, as well as articles on the economics of gold currency. Among the latter are brief reviews of the Gold Standard by Professor Gregory and Mr Hartley Withers, the problem of monetary gold stocks by Sir H Strakosch, paper systems, by Prof Robbins, and there is appended, as a valuable addition to the volume, the revised Trade Cycle Chart of Mr Joseph Kitchin.

Old and Scarce Tracts on Money With a Preface by J R McCULLOCH Photographed from the original Volume printed for the Political Economy Club, 1856 (London P S King Pp 637 15s)

THIS volume was first printed by the London Political Economy Club for distribution among its members. It is now made more generally available. The fourteen Tracts included are *A Discourse of Coin and Coinage*, by Rice Vaughan (1675), *Speech of Sir Robert Cotton before the Privy Council*, 1626, against the proposed degradation of the coinage, *Advice of H M Council of Trade concerning the Exportation of Gold and Silver in Foreign Coins and Bullion* (1660), *Sir W Petty's Quantulumcumque* (1682), *A Report containing an Essay for the Amendment of the Silver Coins* (1695), *Note on the Re-coinage of 1696-99*, *Representations by Sir Isaac Newton on the Subject of Money*, 1712-17, *Tables, illustrative of the Changes in the Standard and Weight of English Money*, from the Conquest down to 1717, *Note on Scotch Money, showing its Successive Changes*, from 1107 to 1707, *Observations on Coin in general, with Proposals for regulating the value of Coin in Ireland*, by T Prior (1729), described by McCulloch as the most valuable work on the coins of Ireland which had at that time (1856) appeared, *An Essay on Money and Coins*, by Joseph Harris (1757-8), including the Theories of Commerce, Money, and Exchanges, *Reflections on Coin in general* (1762), *Inquiry into the value of the Ancient Greek and Roman Money*, by Matthew Raper (1771), and *Tables of Greek and Roman Money*. As the original issue was only 125 copies, this finely reprinted volume should be welcome to students and libraries.

Outline of Political Economy By T LAPIDUS and K OSTROVITYANOV (Martin Lawrence, Ltd Pp 546)

THIS is the text-book of Soviet economics. But while it is admittedly written to deal particularly with the economics of the Soviet Union, it also claims to be a text-book of Political

Economy It is a popular exposition of Marxian argument, and is arranged so that private students and tutors may test themselves and their pupils by using the materials for study and test exercises, which are appended to each chapter. The book is of interest for a positive understanding of the mentality that is being created in Russia, and much of it also for its own sake. It hardly lends itself to review, and its own missionary purpose is to be seen in the Prefatory Note, which says that "the study of political economy by English-speaking students has hitherto been rendered difficult by the paucity of books in English dealing with Marxian economics."

D H M

NOTES AND MEMORANDA

THE UNEMPLOYMENT BILL

THE dominant feature of the National Government's Unemployment Bill is the proposal in Part II to establish a new centralised service under an independent board to minister to the needs of unemployed persons and their families. Insurance is to be left where it is, but the Unemployment Assistance Board is to relieve the Ministry of Labour of the million workless persons now drawing Transitional Payments, and to take over a great part of the burden of able-bodied poverty which has hitherto always been a local government responsibility. In this arrangement, which is contrary to the recommendation made by the Royal Commission in November 1932, the Government and H M Treasury are understood to discern many advantages, including a better observance of the financial proprieties. That the scheme in the Bill may offer the easiest way of escape, or at any rate of temporary escape from certain embarrassing problems of central and local finance may be true enough, but assuredly the contrivance of a three-tier scheme of relief for Unemployment, under three separate authorities, does not look so good as a measure of permanent reconstruction.

Contributory Insurance, giving flat rates of benefits to genuinely unemployed contributors for limited periods, is still to be the first tier, and is to be managed by the Ministry of Labour. As the third tier, the local services of Public Assistance, Public Health and Education (medical attention and school meals) are to continue to deal with the varied needs of the poor as a whole, including the residual needs of families receiving payments under the State schemes. In between national insurance and these local services, the Bill interpolates the Unemployment Assistance Board to deal with one special type of poverty—*i e* the poverty of families, one of whose supporting members is unemployed, and satisfies certain elementary conditions.

According to the statements of Ministers and the text of the Bill, the Board is to care both for the industrial needs of its clients and for their social needs. Its allowances are to be subject to no limit of time or amount. It may supplement benefit or wages, and is to be kinder than the Poor Law. It can, however,

do nothing for sickness, for mothers or for children, and it can only give subsistence for just so long as one of the bread-winners is unemployed and eligible for allowances. That means that thousands of families will oscillate between the Board and local services, each with its different means test, and that some will have to be helped by both simultaneously. The obvious assumption underlying Part II of the Bill is that the needs of the "unemployed" families and ordinary social poverty are in two separate categories, and can be distinguished in practical administration. If, however, such a basic assumption proves to be a complete fallacy, then, on this issue alone, the Bill is certain to cause much confusion, and some damage to the local social services as a whole. Further legislation will soon be required, and there are those who already see in the Bill the beginning of the break-up of local government and the centralisation, not only of the remainder of public assistance, but also of the public health, and perhaps even the education services. What, however, is certain, is that in thousands of poverty cases there will be no clear line between the proper functions of these local services and the functions of the new Board. Expense to the rates will mean a saving to the Board, unless the Bill is amended to provide for wholesale re-imburement by the latter for all services rendered to families one of whose members is a client of the Board.

This new intermediate service for the unemployed and their families is also calculated to prove a most uneasy partner for the Unemployment Insurance Scheme. The allowances of the Unemployment Assistance Board are to cover total monetary needs, including rent. They are to be freely granted above benefit rates, wherever the Board so decides, among the two or three million cases that will come to them in the course of a year. This means that the fully covered contributor will often find himself drawing less than the non-contributor at the same Employment Exchange, and, since the involuntariness of the unemployment is not a condition for the allowances, the man who has been refused insurance benefit because he abandoned his work without just cause, may then proceed to draw a larger sum from the Board.

It may be too soon to say that no contributory scheme can endure against this kind of competition, but the establishment of two centralised services to do the same job for the same class of workers at any rate makes a present of a new argument to those who repudiate contributory benefits and demand some kind of uniform State payment for all types of unemployed persons

From this angle, as well as to avert some of the administrative difficulties referred to above, would not the Government have been wiser to raise benefits a little and then ensure that the allowances under Part II of this scheme should never exceed benefit rates? No one would have blamed them if they had left the relief of any residual margin of poverty to the local authorities as at present.

RONALD C DAVISON

A NOTE ON THE PERIOD OF PRODUCTION

THE December issue of the ECONOMIC JOURNAL contains two extremely interesting contributions, by Mr C H P Gifford and Mr Martin Hill, to the problem of measuring the "length of the period of production." As has been pointed out by both authors, this notion is not without significance for the understanding of recent discussions on business cycles. A few further remarks may be permitted.¹

The definition of the length of the period given by Mr Gifford seems to be all the more valuable as it proves, if duly modified, to be identical with another interesting economic magnitude, viz the ratio of the total value of existing commodities ("stocks") to the value of the current income (or consumption) "flow." Slightly modifying Mr Gifford's notation let $V(x)$ be the number of units of services added per unit of time at time $t - x$ on commodities consumed at time t , and $L(x)$ be the cost of the joint product of these services and of all those added in the preceding stages of production. Then $L(0)$, which corresponds to L in Mr Gifford's notation, is the total cost of the finished products consumed per time unit, it is identical, in a stationary society, with the total income. Obviously

$$V(x) = -\frac{dL(x)}{dx} > 0 \quad (1)$$

$$L(x_1) = -\int_{x_1}^{\infty} Vdx > 0 \quad (2)$$

$$L(0) = -\int_0^{\infty} Vdx > 0, \\ L(\infty) = 0, \quad . \quad . \quad . \quad (3)$$

Mr Gifford defines (*mutatis mutandis*) the length of production R

¹ I owe much to Dr London (Oxford)

Since K , the total value of stocks, must be finite, the area limited by $L(x)$ and the positive parts of the co-ordinate axes (see diagram) does not change if the axes are interchanged

$$K = \int_{x=0}^{\infty} L(x)dx = \int_{L=L(\infty)}^{L(0)} x dL(x) = - \int_{x=0}^{\infty} x dL(x) \quad ^1$$

It follows then, by (4), (1) and (5) that

$$R = \frac{- \int_0^{\infty} x V dx}{\int_0^{\infty} V dx} = \frac{K}{L(0)},$$

so that the "average delay" of Mr Gifford is identical with the ratio of stocks to income, so long as stationary conditions are assumed ²

Our definition differs, however, from Mr Gifford's in so far as our $L(x)$ contains labour as well as capital services, Mr Gifford considers labour only. Let $L(x)$ consist of $l(x)$ labour and $m(x)$ capital services and put $\lambda = \int_x^{\infty} l(x)dx$ and $\mu = \int_x^{\infty} m(x)dx$. Then Mr Gifford's length of production is $R_1 = \frac{\lambda(0)}{l(0)}$, our length of production is $R_2 = \frac{\lambda(0) + \mu(0)}{l(0) + m(0)}$, and the capital per head is $R_3 = \frac{\lambda(0) + \mu(0)}{l(0)}$. Let the interest rate be I . By solving the equation

$$m(x) = I\lambda(x) + I\mu(x)$$

in respect to m we find

$$m(x) = [C - \int_x^{\infty} I e^{Ix} l(x) dx] e^{-Ix},$$

¹ More strictly, the economic fact of K 's being finite means that the function $L(x)$ must have, in addition to the properties (1) and (3), the property

$$L(x) < \frac{1}{x^{1+a}},$$

where $a(>0)$ may be made as small as we please, therefore

$$\lim_{x \rightarrow \infty} [xL(x)] = 0,$$

and by (3),

$$[xL(x)]_0^{\infty} = 0,$$

$$K = \int_{x=0}^{\infty} L(x)dx = \left[xL(x) \right]_0^{\infty} - \int_{L=L(0)}^{L(\infty)} x dL(x) = - \int_{x=0}^{\infty} x dL(x)$$

² In terms of our diagram, the same area ABC xO is obtained whether we sum up the infinitesimal areas of the type $PQBB'$ (i.e. the "values added" multiplied by the corresponding consumption distances) or the infinitesimal areas of the type $E'EBB'$ (i.e. the stocks)

C being a constant We may, thus, express R_1 , R_2 and R_3 in terms of a common argument $l(x)$ i.e. in terms of the time-distribution of labour only We may also transform R_1 in R_2 or R_3 , etc

Modifying Mr Gifford's definition in our way we may easily apply it to both cases given by Mr Martin Hill, in the same issue of the ECONOMIC JOURNAL, and considered by him as examples of two different "methods of reckoning" Mr Hill's statement that, although in a stationary society, "the periods yielded by the two methods of reckoning may not be of identical length, their behaviour will correspond" (p 603), requires further elucidation I think that in a stationary society both methods yield exactly identical results In the first example (p 600), drawn from Bohm-Bawerk, "if the production of a commodity requires in all 100 days of labour, of which one day was spent 10 years before the completion of the commodity, another 9 years before, others respectively 8, 7, 6, 5, 4, 3, 2, and 1 years before, while the remaining 90 days were expended immediately before the completion, its average production period is $\frac{10 + 9 + \dots + 1 + 0}{100} = 0.55$ year"

This reckoning corresponds exactly to our definition if we substitute, as we ought to, say, "commodity consumed per month," and "labour-days applied per month" for "commodity" and "labour-days" The same result, viz 0.55 year will be yielded if we calculate the ratio of stocks to consumption measuring in labour-days labour and capital services alike the denominator is the same as before (100 labour-days per month), and so is the numerator, since the value of stocks in each stage is the product per month multiplied by the stock duration, and the sum of the values of all stocks is therefore (beginning with the remotest stage) $(1 \frac{\text{labour day}}{\text{month}} \times 1 \text{ year}) + (2 \frac{\text{labour days}}{\text{month}} \times 1 \text{ year}) + \dots + 10 \frac{\text{labour days}}{\text{month}} \times 1 \text{ year}) = 55 \frac{\text{labour days} \times \text{year}}{\text{month}}$, the ratio is then $\frac{55}{100}$ years

In Mr Hill's second case, "the simple case of a tool required at a final stage of production (e.g. the awl of a cobbler), produced in a day and expected to make a uniform productive contribution for 5 years, the average period of production in respect of the original factors which produced the tool would be $2\frac{1}{2}$ years" (p 602) The difference between this case and the preceding one

seems to be this we have in case 2 a large period of wearing-out (5 years) and a negligible period of investment (1 day), whereas case 1 only took account of investment and altogether neglected the wearing-out. This difference is, however, only an apparent one. It disappears if we adequately represent stocks of durable goods and services spent on their replacement. Imagine—in accordance with case 2—a society drawing its whole amount of satisfaction out of the use of durable consumption goods (houses). Considering the houses as stocks of future satisfaction and assuming the duration of a house is 100 years, we shall represent the *new* houses by narrow horizontal strips (see diagram) with a height equal to the annual wear-and-tear OM and a breadth equal to 100 years, the strip representing the 1-year-old houses has then a height $OM' = OM$ and a breadth 99 years, etc. The curve limiting the total area corresponds then, in a stationary society, to our function $L(x)$, its ordinate at any consumption-distance x is the value of those already existing particles of satisfaction which will be consumed, per unit of time, after x units of time have elapsed. The absolute value of the first derivative $\frac{dL}{dx} =$

$V(x)$ is the amount of services spent per unit of time in replacing the worn-out particles by new ones which will be consumed after a given elapse of time x . We may apply to this case the same definition of the length of production as before either a weighted average of the amounts of factors spent on different stages, or a ratio of total stocks to total consumption. The results will be identical. In the instance chosen by Mr Hill there is "a uniform productive contribution" of the durable goods in question, in other words, the rate of wearing-out is constant, or, in other words again, all "ages" of durable goods are at any given moment equally represented in the consumption, 1 per cent of all families live in new houses, 1 per cent live in 1-year-old houses, etc. $L(x)$ is then a straight line, or, if the property $L(\infty) = O$ is to be maintained (as it should be if the whole production of society is considered), the condition of "uniform contributions" must be replaced by "nearly uniform contributions" (neglecting the remotest stages of production), $L(x)$ is then approximately a straight line, and the area limited by it and by the axes is (approximately) the triangle known by Jevons. The average length of production, i.e. the ratio of the area to the height, is then (approximately) $\frac{1}{2}$ length of duration. In the general case, however, the wearing-out, and consequently the replacement work, do not go on at uniform rates. For example, if the time-shape of the

wearing-out process is expressed by the figures of case 1, then the replacement work is distributed through time in the same way as the investment work in case 1, and the resulting average length of production is the same, viz 0.55 year. In a sense, *all* work done in a stationary society is replacement work.

Obviously the average length of production

$$\frac{\int_0^{\infty} L(x) dx}{L(0)}$$

is only one and a very insufficient characteristic of the function $L(x)$. More complete information about the stock-distribution and distribution of services over the maturity-stages is given by the function $L(x)$ itself (as shown by our diagram), or by its first derivative $V(x)$ (as shown by Mr Gifford's diagram, p. 613). Even this information is, of course, very limited. It postulates a homogeneous "congeries" of goods (D. H. Robertson), neglecting all differences in the durability of individual goods and consequently ignoring the influence of quasi-rents upon prices of "stocks". The capitalised quasi-rents may considerably alter the properties of the curve $L(x)$. A further deformation of the function $L(x)$ may be due—as pointed out by Mr Hill—to the wrong expectancies of the entrepreneurs, which lead to a discrepancy between consumption and replacement, the consequent congestion of commodity stocks (durable and non-durable) in certain stages may even destroy the monotonic decreasing character of $L(x)$ as expressed by (1). Finally, there is a distinction (of degree) between specific and non-specific goods, a further source of differences in the speed of adaptation. Thus the stationary scheme cannot cover dynamic facts, but the deviations of the facts from the scheme may be in themselves a symptom and a measure of certain dynamic phenomena even though not their explanation.¹

J. MARSCHAK

All Souls College, Oxford

¹ The writer has tried elsewhere to show the importance of the "function of manufacture" $L(x)$ and its predictable (seasonal, etc.) and unpredictable fluctuations through time for the determination of the money volume of a nation ("Economic Parameters in a Stationary Society with Monetary Circulation," *Econometrica*, January 1934). For purposes of monetary analysis, the fluctuations of non-durable stocks alone are statistically measurable, with durable goods, the fluctuations of the amortisation rates are likely to be surpassed by fluctuations of the capitalised quasi-rents owing to changes of the market interest rate and of the risk premium. This makes a statistical evaluation of that part of the money volume which is needed to provide for fluctuations of wear and-tear, impracticable.

PROBLEMS OF A SOCIALIST ECONOMY

MOST of the points of difference between Mr Dobb (ECONOMIC JOURNAL, Dec 1933, p 588) and myself (ECONOMIC JOURNAL, June 1933, p 237) involve issues too fundamental to be discussed adequately in a short note. But there is one point that can be easily disposed of. Mr Dobb asserts (p 592) that it is impossible to reconcile the equilibrium of demand and cost in the market with equality of individual income, since the latter necessarily makes it impossible for cost to reflect the varying scarcities of different kinds of services. "If equality of reward prevail, market valuations would *ipso facto* lose their alleged significance, since money costs would have no meaning. If carpenters are scarcer or more costly to train than scavengers, the market will place a higher value upon their services, and carpenters will derive a higher income and have greater 'voting-power' as consumers. Precisely because consumers are also producers, both 'costs' and 'needs' are precluded from simultaneous expression in the same system of market valuations." Mr Dobb here asserts a necessary connection between things which are necessarily connected only under capitalism. Under socialism it does not in the least follow that a high valuation of carpenters' services involves high incomes for carpenters. In my article of June 1933, I dealt expressly with this point (p 247). "In a socialist system there is no essential connection between the value of labour and the payment of a sum of money to a labourer. For purposes of accurate costing it is necessary to know the value imputed to human effort from the ultimate consumption goods in which it is embodied, but this might be used for accounting purposes only, each worker being rated at a certain figure for purposes of time-sheets and transfers from one job to another, while all earnings were pooled and divided up on some arbitrary principle—say equal incomes for everybody, or a system of payments according to need." It is true that I go on to suggest that for several reasons (*e.g.* free choice of occupation) it might be simpler to pay each worker according to the value of his work (I then argue that this need not involve serious inequality), but I claim that I have stated clearly enough the *principle* that, in a socialist community, labour-cost and income can be separated, and that, therefore, both "costs" and "needs" can be given simultaneous expression.

H. D. DICKINSON

FURTHER NOTES ON JAPAN

GOVERNMENT bond issues are proceeding according to plan, but so far there has been no fall in the internal value of the yen and its external value has, since last April, depreciated only slightly in terms of sterling. Such a state of affairs obviously cannot last indefinitely and although it is not yet possible to see how soon a change will develop, the next year is likely to prove more difficult than the last.

While the average note-issue outstanding at the end of each month of 1933 was only about 7 per cent higher than in 1932, the final figures for December were $15\frac{1}{2}$ per cent above those of the previous year. Further, while Total Bank Deposits ¹ in November were only 8 per cent higher than twelve months before, Cash Deposits had risen 12 per cent and Total Bank Clearings 40 per cent. Money in circulation, therefore, has recently been increasing rapidly, though so far it has only just been sufficient to finance the growing activities of some more prosperous trades, and it is, perhaps, significant that the Tokyo Bank Clearings for December have fallen, in spite of the usual seasonal influences.

Advances and Discounts ² have not risen and the banks have continued to increase their investments in Government bonds, the quotations for which have reached higher records. The price of the latest 400 mn yen, 4 per cent issue, with a maturity of about 24 years, was 98 50. 300 mn were taken by the Bank of Japan and the remainder by the Deposits Bureau (the Department responsible for the investment of Postal Savings). Nearly a quarter of the proceeds will be used to meet the Government's interest payments. Another 300 mn will probably be issued before the end of March. In spite of all these issues, interest rates have fallen further since the beginning of last year and the Bank of Japan's discount rate is now 3 65 per cent. Industry has not, therefore, competed strongly with the Government in its demand for funds.

The comparatively stationary demand of industry for funds is understandable when it is realised that, for the time being, opulence has depended on defence expenditure and the export

¹ Most of the figures in these notes are based on the Bank of Japan's statistics and are worked out in the same way as in my previous article (*ECONOMIC JOURNAL*, June 1933).

² Call Loans, however, which are used almost solely by the Yokohama Specie Bank, the leading foreign exchange concern, rose remarkably in October and November.

trade The industries concerned with military and naval supplies are, of course, advancing with the bond expenditure, and until the middle of the year the staple export industries had an increasing demand for their products The less important export industries, manufacturing rayon, hardware, pottery and glass, toys, woollen textiles and various kinds of clothing, have managed, during the year, to take advantage of the exchange position and in some sections have doubled or even trebled the yen value of their sales Also, all exporters have been helped by the fact that yen rates of wages have steadily fallen since 1931 and are now only about 85 per cent of their 1929 level Nevertheless, against these advantages must be set the following

(1) Increasing competition among Japanese exporters (notably of rayon) is leading to a fall in prices and, where possible, production-restriction agreements, while the effects of the depreciated exchange upon the prices of imported raw materials are now being fully felt For example, in November the average yen price of raw cotton was more than double that of August 1931, whereas cotton shirtings were less than 50 per cent above the earlier level

(2) The collapse of the United States demand for raw silk has reduced its yen price to the level reached immediately before the depreciation of the yen, and at least twenty-five foreign markets have recently raised tariffs or other obstacles to the flow of many kinds of Japanese goods Even trade agreement with India will mean restrictions in one of the largest markets Unless Japan now holds very large balances abroad or, which seems unlikely, borrows overseas, the fluctuations in the net imports of goods and the net receipts from shipping, tourists and emigrants may soon exert complete control over the exchange rate Already the Finance Minister is talking of the possible need for a restriction on the import of raw cotton and wool with the double purpose of maintaining the exchange and enlarging the domestic demand for raw silk

(3) The purchasing power of the farmers—about half the population—is being very badly hit by the slump in silk Rice, as a result of the Government's storage of excess supplies, is now 16 per cent dearer (wholesale) than during last half of 1931, but is said not to be paying its production costs There have therefore, been strong demands for the continuation of the previous Budget's provision for rural relief, which have, so far, been largely refused It is true that, jointly with the fall in wage rates, the index of factory employment has steadily increased,

but this has not been sufficient to bring about a marked advance in the total demand of private domestic consumers

The general short-run situation, therefore, shows a violent mixture of deflationary and inflationary tendencies and it is difficult to say how far the issue of a further 1,300 mn yen of bonds before March 1935, will lead to currency expansion ¹ Strong signs of inflation have been evident during the past few months, but it is quite possible that the note-issue may contract as it did early last year In foreign trade the problem is to keep the exchange steady, with imports high in price, export prices falling, tariff barriers abroad rising and the leading market, U S A , showing few signs of recovery The development of new kinds of exports would only partially help and would in any case take time

The questions asked at the end of my previous articles were chiefly of importance from the long-run point of view The answer to the first is that the bond issues show few signs of slowing down The other questions concerning the economic consequences of the "positive" policy cannot yet be answered, though it is relevant to note two contrasting points First, the figures of trade with the Eastern Asiatic mainland for the first ten months of 1933 (which do not, however, include shipments of military and naval supplies on Government account) are below the 1931 level, whether measured in gold or sterling Secondly, the absence of bond issues during the last two years would have added very greatly to the *immediate* economic and social difficulties of the nation

To-day, more than ever before, the short- and long-run economic future of Japan seems to depend upon the next few political actions of herself and of her neighbours on both sides of the Pacific

N SKENE SMITH

Tokyo University of Commerce

January 9, 1934

¹ Estimates of this year's total budget expenditure are about the same as last year About half goes to the fighting services and one-fifth on interest payments Rural relief has been reduced drastically Total outstanding debts of State and Local Governments, which were 7,700 million yen in December 1931, will probably reach at least 11,000 before April, 1935

OBITUARY

J M KULISHER (1878-1933)

THE well-known Russian economic historian, Josef M Kulisher, died on the 17th November, 1933, at the age of 55. Part of his student life was spent in Germany, his earliest articles (1899-1902) appearing in the *Jahrbucher fur Nationalokonomie und Statistik* and in *Schmollers Jahrbuch*. On his return to the University of St Petersburg, of which he had been a student, he delivered for the first time in Russia a course of lectures on the economic history of Western Europe, which was published in 1909 and soon became one of the most widely read economic books in Russia, appearing in many editions (the last and eighth edition in 1931), and being translated into Polish, Japanese and German, the latter appearing as the third part of the *Handbuch der mittelalterlichen und neuesten Geschichte*, edited by Below and Meinecke.

His principal work, *The Evolution of Profit on Capital*, was published in two volumes in 1906-8. He then interested himself in the questions of municipal taxation which were being much debated at that time in the Douma and Government circles and published two volumes, *Local Taxation in Foreign Countries* in 1911-13, and in 1914 a *History of Municipal Taxation in Germany*, a fundamental work which synthesises the rich German literature on this subject and has been regarded as one of the best works on the question.

After the Russian Revolution he widened the scope of his studies, publishing two volumes entitled *Essays in the Science of Finance* 1919-20, which was devoted principally to questions of direct taxation, following this up by a *Survey of World Economics* which ran into three editions, a *History of Russian Commerce*, and *The Principal Problems of Foreign Trade Policy* (3rd edn 1929), the fullest available account of that subject. In 1925 came his *Essays in the Economic History of Ancient Greece* and the *Economic History of Russia* in two volumes, which was also translated into German. For the last two years, confined to his bed by a serious illness, he was working on the *History of Technical Methods* and managed to complete a few articles which were intended to be part of a larger work. Even the above list comprises only a small part of Kulisher's published works, apart from his articles, more than 200 in number, which appeared in many Russian and foreign journals.

In addition to this huge scientific output, he found time

to teach in the University, the Polytechnic Institute and elsewhere. He was frequently consulted by the Government on questions of taxation, foreign trade and so forth, both before and after the Revolution, and he directed the scientific studies of many former students who afterwards became University teachers. His activity was indeed prodigious. The secret of it, apart from his wonderful memory and wide knowledge, was his unceasing industry. The immense energy which his feeble body contained was never seen more clearly than during his last dreadful illness, but death overcame at last this fanatic of labour and science, and he died leaving many unfinished or unpublished works and unspoken thoughts. T

VLADIMIR DEHN (1867-1933)

PROFESSOR VLADIMIR DEHN, the distinguished Russian economist, died on the 27th December, 1933. He studied and began his scientific career at Moscow University, where he lectured on political economy in the 'nineties. Besides his teaching activity, he took an important part in the work of the Moscow Commission on Home Reading which was the first step towards correspondence courses in Russia. His scientific studies were devoted to the history and statistics of population. In 1902 he published a book on the *Population of Russia according to the Fifth Census*, and a chapter giving his further investigations into that subject was published in 1918 in the Bulletin of the Academy of Sciences.

In 1902 he was invited to the lately created Economic Faculty in the Polytechnic Institute, where for the first time in Russia he taught economic geography. He may indeed be called the father of that science in Russia, publishing books on many different topics of agriculture and industrial economy, including a large *Course of Economic Geography* (3rd edition, 1928), a systematic and complete exposition of the subject. He was also the author of numerous articles in various journals and scientific publications.

His principal service to Russian economics and his outstanding claim to recognition is to be found, however, in his teaching work at the Polytechnic Institute, where he remained from its foundation in 1902 until its reorganisation in 1930 into five technical schools, when he became attached until his death to one of these schools, namely, the Machine Building Institute. He was an exceptional teacher, devoting his whole time to his students. In the Polytechnic Institute seminars played an

important rôle apart from the lectures, and his seminar was particularly famous. He has left, therefore, a large school of grateful and affectionate disciples some of whom are now the best teachers of economics in Russia. His former colleagues and numerous friends will always remember him as a fine Russian character, just, sensitive and generous.

T

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Bajkitch, Dr Vehmir	Hole, George Vincer
Balas, Charles.	Hutter, Prof Dr Karl
Boffito, Dr Domenico	Lewis, P H
Contractor, E A	Posthuma, Dr S
Davies, E A	Sze, Deson Chungyuan
Dravid, N K	Tugendhat, Dr G
Gupta, Om Prakash	White, Oswald
Hewlett, J H	

The following have been admitted to Library membership of the Society —

Banque Nationale de Grèce (Composition for fifteen years' subscriptions)
 Branch of the College of Agriculture, Davis, California
 Butler & Norman, Ltd, Sydney.
 Corpus Christi College, Oxford
 Bureau D'Études Sociales, Bruxelles
 Civil Service Commission, London
 Institute of Economics, Budapest University
 Institute Supérieur de Commerce, Antwerp
 Institute Universitaire de Hautes Études Internationales, Geneva
 (Composition for fifteen years' subscriptions)

THE sixth International Congress for Scientific Management will be held in London from July 15 to 18, 1935, under the chairmanship of Sir George Beharrell, Managing Director of Dunlops. Amongst the questions which will be discussed are

(a) Concrete Examples of the Application of Scientific Management to Distribution Problems in Manufacturing, Wholesaling and Retailing

(b) Methods of controlling Production

(c) Methods of Selection, Education and Training of Personnel suitable for high administrative positions

(d) What are the correct methods of inculcating Modern Management Principles and Practices in large-scale, medium and small undertakings? What is the rôle of Trade or other associations in this field?

Particulars can be obtained from the Secretary, Mr H Ward, 21 Tothill Street, London, S W 1 (Tel Victoria 2861)

THE attention of Fellows is called to *Sankhyā*, the organ of the Indian Statistical Institute, the first issue of which is noted amongst "Recent Periodicals" below. The complete contents of this issue and the terms on which the Journal is obtainable are given in our advertisement columns. It represents a very fine effort on the part of the academic world of India, to which all libraries concerned with Economics and Statistics would do well to subscribe.

A correspondent writes —

"THE Department of Business Administration of the London School of Economics commenced its third session last October with much larger numbers than hitherto. The increase results to a considerable extent from a new arrangement which links more closely training for business administration and the universities. Under the University Scheme, as this arrangement is called, a number of large firms select university graduates who have just taken their degrees, require these men to attend for an academic year the Department's course of training in business administration, and at its close start them in definite posts at salaries agreed in advance. The firms participating in this arrangement include some of the largest and best known concerns in the country. The students thus selected are, of course, marked men in the firms they enter and their rapid

advance to responsible posts therefore depends largely on the manner in which they take advantage of their opportunities and training

“The Department’s training comprises a second-year day-time course containing the specialised business subjects which the Department was specially founded to provide, and a first-year course given mainly in the evenings and consisting chiefly of economic studies. University graduates, provided they are suitably qualified, are admitted direct to the second-year course, which this year contains thirty students out of the total of thirty-five. Amongst the five first-year students, on the other hand, only one possesses a university degree. The thirty second-year students include twenty-four university graduates, ten from Cambridge, eight from Oxford and the rest from various universities in Great Britain and abroad. The Economics Tripos and Modern Greats are well represented, but the majority of students have taken various degrees, past experience having shown that a good university degree provides as a rule a sufficient and suitable foundation for training in business administration.

“Arrangements are being made to continue the University Scheme next session. Men who are completing their degree work in June of this year and who wish to take advantage of the Department’s training and to apply for the opportunities for advancement to responsible business posts which the Department and the University Scheme hold out, should therefore get in touch with the Head of the Department at 11, Clement’s Inn Passage, W C 2, if possible before the summer vacation.”

RECENT PERIODICALS AND NEW BOOKS

Economica

- NOVEMBER, 1933 *On the Subject-Matter and Method of Economic Science* F KAUFMANN *Under-consumption* J A HOBSON and E F M DURBIN *Reciprocity and the Most-Favoured-Nation Clause* S H BAILEY *The Economic Concept of a Public Utility* H E BATSON *The Liverpool Office in London* W. O HENDERSON

The Manchester School

- Vol IV, No 2 *Trade Fluctuations and Accidents to Railway Employees* C D CAMPBELL *Freedom and Planning* H D DICKINSON *Economic Trend and Government Interference* C T BRUNNER *Reflections on some Differences between Economists* J STAFFORD *The Economic Nature of Public Utilities* P CHANTLER

Sociological Review

- JANUARY, 1934 *Public Assistance* H J W HETHERINGTON
Social Class T H MARSHALL

Economic Record.

- DECEMBER, 1933 *The World Economic Conference* E O G SHANN *Nationalisation of Credit* E G THEODORE *Saving and Investment in Monetary Theory* E R WALKER *Progress in Australian Tariff Policy* J B BRIGDEN *A Business Index for Australia* E K HEATH and J POLGLAZE *International Comparisons of Time lost through Industrial Disputes* E J RICHES *Taxable Capacity* L F GIBLIN *The Third Australian Census* H C GREEN *The Basic Wage in New Zealand prior to 1928* N S WOODS *Depression, Unemployment, and the Shorter Working Day* F R E MAULDON *Transport Regulation* T HYTEN

South African Journal of Economics

- DECEMBER, 1933 *The Union Native and the Witwatersrand Gold Mines* C L READ *Some Aspects of Railway Development in Natal* W J BUSSCHAU *Problems of Racial Adaptation* J E HOLLOWAY and H P POLLACK *Die Plek van die Bantoebevolking in die Suid-Afrikaanse Volkshuishouding* J F W GROSSEKOPF *Some Aspects of Workmen's Compensation in South Africa* J P DALTON.

Sankhyā The Indian Journal of Statistics

- JUNE, 1933 Vol I, Part I *Indian Prices during the Depression* S SEN and H S SINHA *A Short List of Indian Official Trade Returns (1931)* J R G THAKOTA

International Labour Review

NOVEMBER, 1933 *The Depression and Industrial Arbitration in New Zealand* E J RICHES *A Contribution to the Study of Labour Conditions in the Lebanon* F A IZZISDIN and G HAKIM *Index-Numbers of the General Level of Wages in Certain Countries*

DECEMBER, 1933 *The Economic Experiment in the United States Legislation on Labour Disputes in Norway* P BERG *Child Labour in India* I R K DAS *Unemployment and National Health in Great Britain* *Food Consumption of Working-Class Families in Certain Countries*

JANUARY, 1934 *The Course of American Recovery* H B BUTLER *Unemployment Relief Measures in New Zealand* E J RICHES *Child Labour in India* II R K DAS

Review of Economic Statistics

NOVEMBER, 1933 *General Economic Conditions* (Ed) *Review of the Third Quarter of 1933* W L CRUM and J B HUBBARD *Turning of Recovery from Major Depressions* S HEARD and A F BEEDE

Quarterly Journal of Economics

NOVEMBER, 1933 *Industrial Productivity in Great Britain and the United States* A W FLUX *Money, Prices, and Production some Fundamental Concepts* J W ANGELL *Money, Gold, and Income in the United States, 1921-32* L CURRIE *The Taxation of Real Estate* K M WILLIAMSON *Housing Problems* E M FISHER

American Economic Review

DECEMBER, 1933 *Banking Act of 1933* H H PRESTON *British Exchange Equalisation Account* A COMSTOCK *Banks, States, and Federal Government* B HAMMOND *Applied Marxism in Soviet Russia* G TUCKERMAN *Speculation and Growing Instability of Stock Prices* M J FIELDS *French Import Quotas* E B DIETRICH

Journal of Political Economy

OCTOBER, 1933 *Private Investments and International Politics in the Saar, 1919-20.* E STALEY *Union-Management Co-operation and the Southern Organising Campaign* J C TREPP *An Examination of Mr Keynes' Price-Level Concepts* A G HART *Population Doctrines in the US* II *Malthusianism* J J SPENGLER *A Balance Sheet of the Banking System and a Consolidated Statement of Bank and Life Insurance Company Resources* E HARTZEL

DECEMBER, 1933 *The Banking Act of 1933* R B WESTERFIELD *Crisis and Readjustment in New Zealand* H BELSHAW *The Dispute over the Federal Domain in Canada* J A MAXWELL *Workmen's Compensation and the Railroads* L D CLARK. *Gresham's Law and the Chilean Peso* F W FETTER

Annals of the American Academy of Political and Social Science

NOVEMBER, 1933 *Social Insurance in relation to Health, Unemployment, Pensions and General Principles* By various authors

Wheat Studies

(Food Research Institute, Stanford)

NOVEMBER, 1933 *Price Leadership and Interaction among Major Wheat Futures Markets* From an analysis of initial changes and responses, it is found that Chicago and Winnipeg originate approximately two-thirds of all price movements and Liverpool only about one-third

DECEMBER *The World Wheat Situation, 1932-33 A Review of the Crop Year* World wheat supplies were again superabundant, despite short crops in the Danube basin and the United States. Importing Europe harvested a record crop, and import restrictions were tighter than ever before, consequently, imports were the smallest since 1917-18, and well below the pre-war average. Stocks were built up and reached a new high level. The excess—roughly 70 per cent above normal—was again mainly in North America

JANUARY, 1934 *World Wheat Survey and Outlook, January 1934* The 1933 world wheat crop ex-Russia is small, but 190,000,000 bushels above last September's estimate. Supplies are particularly heavy in Europe. World disappearance will probably exceed production, leaving stocks roughly 120,000,000 bushels smaller, but still some 300,000,000 bushels above normal

Index (Stockholm)

NOVEMBER, 1933 *Some Problems of International Economic Equilibrium* J B CONDLIFFE

DECEMBER, 1933 *The Inadequacy of Price Stabilisation* B OHLIN

JANUARY, 1934 *Uniform Indication of Countries in Trade Statistics* S STOCKMAN

Journal of the Osaka University of Commerce

SEPTEMBER, 1933 (Being the first number) *Price Standardisation in Government Control of Rice* S KAWATA *What directs Management Activities* F MURAMOTO *Tax Exemptions in Japan* R OYAMADA *Gemeinwirtschaft, Gesellschaft, und Wirtschaft* K FUKUI *Zur Kritik der Zweikontenrechenetheorie* W KIMURA

Revue d'Économie Politique

SEPTEMBER, 1933 *Économie corporative et système capitaliste* F PERROUX *La semaine de quarante heures* G LEDUC *Le bloc des États agricoles de l'Europe centrale et orientale et son programme* A BUSSOT

Journal des Économistes

NOVEMBER, 1933 *Les erreurs gouvernementales en France et aux États-Unis* E PAYEN *L'Industrie sidérurgique* R J PIERRE *Nouvelle loi sur les cartels en Tchécoslovaquie* S BORODAEWSKY

DECEMBER, 1933 *La Situation budgétaire française fin 1933* E PAYEN *L'Italie économique* R J PIERRE

Bulletin de l'Institut des Sciences Économiques

- NOVEMBER, 1933 *Indices de la consommation en Belgique de 1897 à 1933* L H DUPRIEZ and M BORBOUX *L'évolution économique de la sidérurgie belge de 1830 à 1913* A WIBAIL *Les finances de l'État et la conjoncture en Belgique de 1830 à 1913* P VAN DER REST *La conjoncture économique de la Belgique et du Luxembourg* L H DUPRIEZ

Weltwirtschaftliches Archiv

- JANUARY, 1934 *Staatsraum und Wirtschaftsraum* A PREDOHL A discussion of the relations of economic and political areas. The economic limitations of nationalisation as based on areas are considered theoretically and by some particular cases. The significance of Autarchy for Germany is finally discussed. *Innereuropäische Handelspolitik* R RIEDL An historical account of the policy of trade agreements, pre-war and post-war, leading to the problem of the reaction of the Ottawa Agreement on European conditions, and to a critical discussion of the alternatives which European countries may adopt. *Meistbegünstigungsklausel und Kontingent* C BRINKMANN The aim is to show the contradiction in the ideology of the most-favoured-nation clause between the juridical assumption of equal nations and the economic assumption of unequal competing interests, the impossibility of a logical execution of the unconditional form of the clause, and the place of the quota as a corollary, instead of as a deterioration, of a tariff system. *Der Erkenntniswert des Kettenschlusses in der Aussenhandelstheorie* W HAHN The problem whether an export of money, such as Reparation payments, can set up interactions which will cause a back-flow. It has been sought to show this by a chain of arguments, to which the author applies the test of the theory of probabilities. The general conclusion has a probability depending on a number of particular probabilities in such a way as to make the result an empirical rather than a theoretical one. *Grundsätzliches zur Messbarkeit der Nachfrage-elasticität* In quantitative economics, point elasticity is useless, existing systems of arc elasticity also. The right place of the function of elasticity. Analysis and differences of the theories of choice of the Americans and Austrians. Importance of the standard of life for elasticity. Not the utility curve, but the demand curve, is primary. The formula of the demand curve to be used for measuring elasticity.

Schmollers Jahrbuch.

- OCTOBER, 1933 *Das bürgerliche Recht in nationalsozialistischen deutschen Staat* H DOLLE *Politik und Wirtschaft im Denken der faschistischen Führer* W KOCH *Zur Soziologie der finanzpolitischen Entscheidung* F K MANN *Realistische Konjunkturerklärung* F LUTZ
- DECEMBER, 1933 *Recht und Wirtschaft* O VON ZWIEDINECK-SUDENHORST *Das neue britische Wirtschaftssystem* F HEYER *Historische-kritische Untersuchungen zum politischen Verhalten der Intellektuellen* A BOER

Zeitschrift für Nationalökonomie

- OCTOBER, 1933 *La méthode de la science économique* U RICCI
 An argument for free competition among the methods, but insisting on the dangers of statistical method if separated from economic theory *Observations à la théorie de productivité marginale* E SCHNEIDER The first part is devoted to the problem of the relation between the theory of marginal productivity and the technical structure of production The second part treats the question resulting from the derivation of these theorems under monopolistic or polypolistic conditions, and not under free competition *Connections causales et connections fonctionnelles du mécanisme économique* O CONRAD A discussion with Hans Mayer, in which it is held that a complete explanation of price must include both the functional and the causal (psychical) factors

- JANUARY, 1934 *Zur gegenwertigen Krisenlage und inflationistischen Krisenbekämpfungspolitik* A AMONN *Lohnfonds und Geldkapital* R STRIGL *Ricardo und die Entstehung des Bullion Report* E FOSSATI *Ursachen und Wirkungen der Kapitalbewegungen* R NURKSE *Die Fluessarbeit* G AKERMANN

Jahrbucher für Nationalökonomie und Statistik

- NOVEMBER, 1933 *Internationale Kartelle* K FRIES
 DECEMBER, 1933 *Ueber das Verhältnis von Philosophie und Sozialökonomie* F ZADOW *Das geschichtliche Standestaat* J A TZOBL *Möglichkeiten und Grenzen der bauerlichen Siedlung, besonders im Hinblick auf die gewerbliche Arbeitslosigkeit* P QUANTE

Archiv für Sozialwissenschaft und Sozialpolitik

- JULY, 1933 *Die Krisensituation der kapitalistischen Wirtschaft* G COLM *Statistische Analysen der wirtschaftlich Selbständigen* T GEIGER *Alfred Vierkandts Gesellschaftslehre* F SANDER *Volksvermögen und Kassenbedarf* H NEISSER *Vom Grossensystem der Geldwirtschaft* J MARSCHAK
 AUGUST, 1933 *Öffentliche Wirtschaft und Planwirtschaft* F ELSAS *Struktur und Grenzen der statischen Wirtschaftstheorie* S REIMER *Die quantitative Selbstregulierung der Zahlungsbilanz* W FELLNER *Steuerlose Weltwirtschaft* E LEDERER *Über die Äquivalenz beim Tausche und die wirtschaftliche Dimension* H BERNARDELLI *Die Wirklichkeit der Wirtschaft* E C VAN DORP *Bemerkungen zur Erfassung der sozialen Struktur* H SPEIER

Annali di Statistica e di Economia (Genoa)

- Vol I, No I *Considerazioni intorno ai rapporti tra tonnellaggio marittimo mondiale e commercio estero* V MORETTI *Conti bancari della Banca dei regolamenti internazionali* A BREGLIA *Il Gold Exchange Standard in India* B N SINHA

Annali di Economia

- DECEMBER, 1933 *Il sistema di banca continentale e quello inglese nell'anteguerra* P MENGARINI *Giuseppe Prato, maestro di storia economica* A BERNARDINO *Il credito di accettazione* G CAPODAGLIO

Giornale degli Economisti

SEPTEMBER, 1933 *Indirizzi di pensiero politico economico nel Risorgimento italiano* A G CANINA *L'imputazione dell'interesse figurativo al "costo monetario dell'uomo"* T ZERBI *Sulla distribuzione dei terreni agrari nel Giappone dal 1908 al 1930* M HAYAKAWA

OCTOBER, 1933 *Un' imposta sul reddito lordo delle imprese speculative e i suoi effetti* M PUGLIESE *A study of the incidence and general effects of a tax on the gross receipts of industrial, commercial and financial enterprises leads to the conclusion that such a tax would have much to commend it so long as it was not too heavy* *L'Australia e l'emigrazione italiana* F MILONE *The majority of Italian emigrants to Australia tend to settle on the land, and for this and other reasons Australians ought to welcome rather than discourage Italian immigration* *Il rapporto dei sessi nei nati da concepimento antenutuale* D DE CASTRO

NOVEMBER, 1933 *Considerazioni intorno alla curva della domanda* V DOMINÈDÒ *The second of two articles dealing with the mathematical theory of demand* *Economia generale ed economia delle ricchezze* A BREGLIA *Recent definitions of economics, notably that given by Professor Robbins in a recent book, are too wide to be serviceable to the economist* *It seems better to confine the scope of the economist proper to the study of the economics of wealth* *Thomas Joplin e il "Piano per la costituzione di una Banca Nazionale" di David Ricardo* E FOSSATI *Nuovi dati sulla natalità in Italia* PROFESSOR G MORTARA *reproduces some interesting figures relating to the birth-rate in the different Italian provinces* *He draws attention to the very rapid fall in the birth-rate in recent years and expects that this fall will continue*

Riforma Sociale

SEPTEMBER-OCTOBER, 1933 *Contributo ad un confronto fra le spese militari della Francia, dell'Italia e della Germania* L BARBERIS *Contains some interesting comparisons, reduced to the common basis of the lira, of the prices in France, Germany and Italy of the principal items of expenditure for military requirements* *La crisi dello zucchero e la rivoluzione cubana* E GIRETTI *The recent revolution in Cuba has an economic origin, and is chiefly due to the wrong-headed policy adopted throughout the world with regard to the production and consumption of sugar* *Risparmio disponibile e lavori pubblici* L EINAUDI *A plea for public works as a means of counteracting the deflationary tendencies of a period of acute depression and unemployment* *Piani economici americani* TH BALOGH *A critical and pessimistic account of recent economic policy in the United States* *The President and his advisors cannot make up their minds between conflicting and mutually contradictory policies of inflation and deflation, with the result that they are destroying confidence and discouraging investment* *L'interesse come prezzo per l'attesa* V PORRI *A brief defence of the view that interest is the price of waiting, against attacks recently made on that theory in the Zeitschrift für Nationalökonomie by A Mahr and E Carell* *Lavoro e costo — contributo ad una teoria pura* L EINAUDI and

M RESTA *Azoto e frumento* P BANDI *Principi utilitaristici e imposta* L ROSSI and L EINAUDI

NOVEMBER-DECEMBER, 1933 *Trincee economiche e corporativismo*
 L EINAUDI A cautious survey of the possible sphere of action of the Corporations in Italy The decline in the field where competitive forces can operate freely, and the growth of imperfect competition, make it possible that some extension of control in the general interest may rebound to the advantage of the community *La moneta controllata e le sorprese dell'esperimento americano* PROFESSOR CABIATI continues his destructive criticism of recent economic policy in the United States *Un momento critico per le sete Le cause ed i rimedi* E GIRETTI An examination of the critical position of the Italian silk industry in the face of Japanese competition *Finanza e riforma dei consigli provinciali dell'economia corporativa* F A RÈPACI *Esperimenti di valorizzazione* C VANNUTELLI *Economia regolata inglese* C PAGNI A brief account of recent English legislation affecting agriculture *Interventi chirurgici in materia finanziaria (Il risanamento della "Italgas" e della "SIP")* R LEVIS *Dwagazioni bancarie* M MAZZUCCHELLI *Discussioni teoriche sull'imposta* L EINAUDI, U RICCI and L ROSSI Some brief controversial notes on the minimum sacrifice theory of taxation *Intorno ad una critica della rendita e del monopolio dal punto di vista morale* V PORRI

De Economist

JUNE, 1933 *Prof Mr Dr Anton van Gyn* C A VERRIJN STUART An obituary article on Professor van Gyn, who died 11th May, 1933 *De theorie van den internationalen handel in de socialistische literatuur* P J BOUMAN Socialism has been an international organisation since Marx, and it is surprising that more attention has not been paid to questions of international trade Different nations are at different stages of development, and it is therefore not to be expected, even on socialist theory, that all countries will arrive at the stage of revolution simultaneously There are thus two questions (i) trade between a socialist and a capitalist state, and (ii) trade between two socialist states On the side of non-socialist writers, reference is made to Pierson, who holds that it is impossible to find an objective standard for trade between two socialist states, there would also be difficulty in financing trade So also Mises On the side of the socialist writers, the article summarises the views on foreign trade of the fore-runners (St Simon, Fichte, Owen), and of Thompson, Fourier, Blanc, Leroux and Pecqueur Proudhon was "the first socialist with economic insight" His solution might do for trade between socialist states, he does not consider trade between a socialist and a capitalist state The German socialists, in general, are silent about future problems Marx's phrase "socially necessary labour" must have reference to some geographical unit It is impossible to speak of normal conditions of production for the whole world Of later writers, Varga and Morreau receive most attention Foreign trade represents a "neglected chapter in socialist theory" Since Marx many socialists have discussed *in abstracto* many subjects which can only be considered con-

cretely *Verminderende meerofbrengsten* J TINBERGEN A mathematical discussion of the articles on Diminishing Returns contributed by Dr van Genechten to previous numbers

JULY-AUGUST, 1933 *Het octrooi der Nederlandsche Bank* I ANT VAN GIJN In connection with the termination and renewal of the Charter of the Netherland Bank, the writer discusses a number of questions of banking policy. The arguments of those who desire the socialisation of the Bank is considered in the light of war experience. It is suggested that the extent to which the printing press may be abused depends on the measure in which economists and financiers possess insight into monetary questions. In this connection reference is made to the influence of Knapp in Germany. In discussing the merits of a chartered bank or a state bank, the arguments in favour of the greater efficiency of a private bank are considered. At present the Bank pays higher salaries than is customary in corresponding positions in the state service. Other matters considered are the division of profit (representing a higher share for the state at each renewal of the charter), the size of the capital of the bank, and the convertibility of the bank notes. The article concludes with a discussion of the currency system of Holland. *Beschouwingen over de elasticiteit van de vraagcurve* I G BROUWERS A discussion of the method of measuring elasticity of demand. Reference is made to Marshall, Engländer, Schultz and Mrs Gilboy.

SEPTEMBER, 1933 *Het rapport der commissie van onderzoek inzake het huudig systeem van belegging van de gelden der Rijksfondsen commissie Patijn* I J J KORNDORFFER Three commissions have recently reported regarding the investment of "government funds". The latest commission (Patijn) is largely concerned with the investment of old age pension funds and invalidity insurance funds. The question of principle involved is whether the funds belong to the state or to the insured. The majority hold that the funds belong to the state, and that therefore the state has a free hand as to their investment. The minority emphasise the moral right of the insured, and consequently argue that the funds should be invested in something yielding a better return than the national debt. "These interests involve, *inter alia*, that investment in national debt should only take place to a moderate extent, as is also the case in private life insurance companies." *Het Octrooi der Nederlandsche Bank* II ANT VAN GIJN A continuation of the previous article, dealing with points arising in connection with the renewal of the bank charter. The points dealt with are (i) the form of the weekly statement, which is criticised, (ii) investment of special reserves, (iii) provision as to remuneration of the directorate. *Beschouwingen over de elasticiteit van de vraagcurve* II G BROUWERS A continuation of the mathematical discussion of elasticity of demand.

OCTOBER, 1933 *Handhaving van den Gouden Standaard in Nederland en hare consequenties* H M H A VAN DER VALK That different countries have pursued different ends in the monetary policy adopted is shown by reference to Britain, U S A and Germany. Holland has had no consistent "conjunctur" policy in these matters. The difference between earlier crises and the present crisis lies chiefly in the recent rigidities in the

economic system. The article resolves itself into a consideration of these rigidities. From the side of consumers' expenditure, the cost-of-living figures are considered, with special reference to the rigidities of rent and taxation. On the side of producers, the rigidities of wages, rent and mortgages are discussed. Expressed in real wages, the well-being of many classes of workers has risen. The Government's policy in respect of support given to agriculture and quotas is discussed. In conclusion, the writer considers how far the various rigidities are connected with the maintenance of the gold standard. *Het rapport der commissie etc (Patijn)* II. J. J. KORNDORFFER. A continuation of the previous article, discussing other possible methods of investment of insurance funds (mortgages, railway stock, etc.), concluding with a general survey and criticism of the Report.

Ekonomisk Tidskrift

- 1933 Nos 5-6 *A Statement of the Problem of Trade-Cycle Theory*. This abstract was incorrectly rendered in our issue for September, 1933. A correct abstract should read: "The author studies the relation between the factors influencing the cyclical change of production and the factors acting on the cyclical change of saving. After a discussion illustrated by a stereoscopic model, it is concluded that a change in distribution, i.e. increased saving, seems to be a necessary condition of a change in production, i.e. increased employment. The thesis will be demonstrated by statistical induction in a following paper." J. ÅKERMAN.

NEW BOOKS

British.

- ADARKAR (B. P.) *The Principles and Problems of Federal Finance*. P. S. King. 8½" Pp 301. 12s 6d.
- ANDREW (E. J. L.) *Indian Labour in Rangoon*. Oxford University Press. 8½" Pp 300. 10s 6d.
- ASTOR (VISCOUNT) and MURRAY (K. A. H.) *The Planning of Agriculture*. Oxford University Press. 8½" Pp 186. 6s.
- BAGGE (G.) *Wages in Sweden, 1860-1930*. Institute for Social Sciences, University of Stockholm. P. S. King. Pp 579.
- COLBOURNE (M.) *Economic Nationalism*. Figurehead. 7¼" Pp 284. 3s 6d.
- DALTROFF (E. M.) *The Foundation of Industrial Stability*. P. S. King. 8½" Pp 138. 7s 6d.
- DAVIS (J. M.), (Ed.) *Modern Industry and the African*. Macmillan. 8½" Pp 425. 12s 6d.
- DAY (J. P.) *Considerations on the Demand for a Central Bank in Canada*. Toronto and London. Macmillan. 9" Pp 56. 2s 6d.
- Economic Essays in Honour of Gustav Cassel*. October 20, 1933. Allen and Unwin. 9¼" Pp 720. 30s.

EINZIG (P) The Sterling-dollar-franc Tangle Kegan Paul 7½" Pp 207 7s 6d

EINZIG (P) Germany's Default the Economics of Hitlerism Macmillan 8½" Pp 128 7s 6d

GADGIL (D R and V R) A Survey of the Marketing of Fruit in Poona Poona Gokhale Institute of Politics and Economics 9½" Pp 184 Rs 2-8

GOLDSCHMIDT (R W) The Changing Structure of American Banking Routledge 8½" Pp 318 12s 6d

GREGORY (T E). Gold, Unemployment and Capitalism P S King 8½" Pp xvi + 308 12s

HAWTREY (R G) Trade Depression and the Way Out New edition Longmans 8½" Pp ix + 183 7s 6d

Institute of Pacific Relations The Peopling of Australia Second Series Melbourne University Press 7½" Pp 327 6s 6d

JAUNCEY (L C) Australia's Government Bank Cranley and Day 7½" Pp 288 7s 6d

JEWKES (J) and WINTERBOTTOM (A) Juvenile Unemployment Allen and Unwin 7½" Pp 159 5s

JONES (J H) The Economics of Private Enterprise 2nd ed Pitman 8½" Pp 462 7s 6d

KNOOP (D) and JONES (G P) The Mediæval Mason an economic history of English stone building in the later Middle Ages and early modern times Manchester University Press 8½" Pp 294 12s 6d

KOVERO (I) Some Views on Marginal Utility and the Theory of Taxation Helsingfors Pp 103

MACMILLAN (H) Reconstruction a plea for a national policy Macmillan 8½" Pp 128 3s 6d

MAULDON (F R E) The Use and Abuse of Statistics, with special reference to Australian economic statistics Melbourne University Commerce Students' Society 9¾" Pp 52

McFARLANE (JOHN) Economic Geography 4th ed Pitman 8½" Pp 687 10s 6d

MCGREGOR (A G) Lasting Prosperity, a plan to ensure a constant balance between the power to consume and the power to produce 2nd ed Pitman 8½" Pp 206 7s 6d

MUKERJEE (R) Land Problems of India Longmans 9½" Pp 369 9s

PANANDIKAR (S G) Industrial Labour in India Longmans 8½" Pp 299 9s.

PERCY (LORD EUSTACE) Government in Transition Methuen 7½" Pp 243 7s 6d

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ATTILIO CABIATI, Professor an der Universität Turin, *"Federal Reserve Act" und die amerikanische Währungspolitik*

VIKTOR BLOCH, *Die zeitliche Determinierung des Konjunkturbruchs*

HENRY SCHULTZ, Professor an der Universität Chicago, *Über eine Methode zur Berechnung der Elastizität der Nachfrage und die Kritik Prof. Amorosos daran* Mit 4 Abbildungen

R. VAN GENECHTEN, Privatdozent an der Universität Utrecht, *Zur Lohn- und Zinstheorie*

FELIX KAUFMANN, Privatdozent an der Universität Wien, *Zur Methodologie der Sozialwissenschaften*

In his introduction to the first number of the 'Zeitschrift für Nationalökonomie' Professor MAYER wrote as follows

"With the cooperation both of scholars and scientists whose aim is a fuller understanding of the economic process, and also of eminent men of affairs, our

journal sets out to promote a revival of interest in the genuinely scientific treatment of economic problems. We hope to make the stock of secure results already gained in elucidating economic relationships accessible to a wider public, to carry further, in a critical spirit, the search for truth and thus to serve life by serving the cause of knowledge.

"The 'Zeitschrift für Nationalökonomie' is intended to contribute to the progress of the *understanding* (as distinct from the description or criticism) of economic phenomena, and will therefore be primarily devoted to rigorous *theoretical* inquiry. Without any narrow limitation, all movements, schools, and shades of economic theory will be given the opportunity to express themselves, — with the single restriction, however, that their contributions must be purely scientific in character, with the sole object of advancing knowledge and not for the purpose of representing political postulates or the doctrinaire standpoints of different economic 'philosophies'. For the attainment of these aims it is particularly fortunate that assurances of cooperation have been given by the leading economists of all civilised countries. The spiritual 'working-community' which, to some extent, is represented by every scientific journal in contrast to the individual book should be quite definitely an international one.

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The following selected list of articles published in the „Zeitschrift für Nationalökonomie" may indicate the extent to which the standards established have been maintained.

A. AFTALION, Professor an der Universität Paris, *Die jüngste Geschichte des Wechselkurses in Frankreich und die psychologische Wechselkursstheorie* Vol I, p. 266

GUSTAF ÅKERMAN, Professor an der Handelshochschule Gothenburg, *Flecksarbeit* Vol V, p. 97

JOHAN ÅKERMAN, Dozent in Stockholm, *Dynamische Wertprobleme* Vol II, p. 579

ALFRED AMONN, Professor an der Universität Bern, *Zur gegenwärtigen Krisenlage und inflationistischen Krisenbekämpfungspolitik* Vol V, p. 1

- OSKAR ANDERSON, Professor an der Handelshochschule Varna, *Ist die Quantitätstheorie statistisch nachweisbar?* Vol II, p 523
- ALEXANDER BILIMOVIC Professor an der Universität Laibach, *Irving Fishers statistische Methode für die Bemessung des Grenznutzens* Vol I, p 114
Versuch der Bemessung des Grenznutzens Vol IV, p 161
Kritische und positive Bemerkungen zur Geldwerttheorie Vol II, p 353, 695
- L V BIRCK, Professor an der Universität Kopenhagen, *Kalkulationen und Preisberechnungsmethoden* Vol I, p 101
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- MARCO FANNO, Professor an der Universität Padua, *Irrtümer in der Zeit als Ursachen wirtschaftlicher Schwankungen* Vol IV, p 25
Die Elastizität der Nachfrage nach Ersatzgütern Vol I, p 51
- MAURO FASIANI, Professor an der Handelshochschule Triest, *Der gegenwärtige Stand der reinen Theorie der Finanzwissenschaft in Italien* Vol III, p 51 Vol IV, p 79, p 357
- ERALDO FOSSATI, Professor an der Universität Padua, *Ricardo und die Entstehung des Bullion Report* Vol IV p 473, Vol V, p 42
- RAGNAR FRISCH, Professor an der Universität Oslo, *Einige Punkte einer Preistheorie mit Boden und Arbeit als Produktionsfaktoren* Vol III, p 62
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Transfer und Preisbewegung Vol II, p 100
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- OSKAR LANGE, Privatdozent an der Universität Krakau, *Die allgemeine Interdependenz der Wirtschaftsgrößen und die Isolierungsmethode* Vol IV p 52
- ALEXANDER MAHR, Privatdozent an der Universität Wien, *Abstinenztheorie und Lehre von der Minderschätzung der Zukunftsgüter* Vol II, p 27
- W ARTHUR MARGET, Professor an der Universität Minnesota, Minneapolis, *Zur Dogmengeschichte des Begriffes einer „Umlaufgeschwindigkeit der Güter“ und seines Verhältnisses zur Umlaufgeschwindigkeit des Geldes* Vol IV, p 188
- OSKAR MORGENSTERN, Privatdozent an der Universität Wien, *Offene Probleme der Kosten- und Ertragstheorie* Vol II, p 481
- GUNNAR MYRDAL, Professor an der Universität Stockholm, *Das Zweckmittel-Denken in der Nationalökonomie* Vol IV, p 305
- RAGNAR NURKSE, Wien, *Ursachen und Wirkungen der Kapitalbewegungen* Vol V, p 78
- GIUSEPPE UGO PAPI, Professor an der Universität Pavia, *Die grundlegende Ursache der wirtschaftlichen Schwankungen* Vol IV, p 330
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- RICHARD REISCH, Professor an der Universität Wien, *Das Kreditproblem in der Volkswirtschaft* Vol III, p 1
Die „Deposit“-Legende in der Banktheorie Vol I, p 489
- UMBERTO RICCI, Professor an der Universität Kairo, *Die Kurven des Geldnutzens und die Theorie des Sparens* Vol III, p 307
Die „synthetische Ökonomie“ von Henry Ludwell Moore Vol I, p 649
- M ROCHE-AGUSSOL, Professor an der Universität Montpellier, *Psychologische Ökonomie in Frankreich* Vol I, p 4, 570
- EWALD SCHARF, Sektionsrat in Wien, *Die Anfänge lehrgeschichtlicher Betrachtungsweise in der Nationalökonomie* Vol III, p 47
Komparative Statistik Vol II, p 27
- ERICH SCHNEIDER, Dozent an der Universität Bonn, *Kostentheoretisches zum Monopolproblem* Vol III, p 185
- HEINRICH VON STACKELBERG, Köln, *Grundlagen einer reinen Kostenlehre* Vol III, p 333, 352
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- JAKOB VINER, Professor an der Universität Chicago, *Cost Curves and Supply Curves* Vol III, p 23
- F ZEUTHEN, Professor an der Universität Kopenhagen, *Das Prinzip der Knappheit technische Kombination und ökonomische Qualität* Vol IV, p 1

To its wide range of distinguished contributors the "Zeitschrift" owes its unique position. For it is in this way constantly kept in touch with all interesting and important developments of thought on the Continent. The conclusion seems justified that the journal has fulfilled the high expectations raised by the following words of Professor MAYER in the introductory statement quoted: "Such continuous cooperation of scholars of different 'schools' and different countries gives rise to the confident hope that new ideas will, in this way, more effectively contribute to the development of economic science, that, for example, the methodological disputes — without which no progress of knowledge is possible — regarding the relative merits of different roads to truth, will be fought out on a broader basis and with the participation of all workers in the field, and that the mutual positive advancement through the exchange and assimilation of new thought may proceed in a more direct and fruitful manner."

The next number of the "Zeitschrift" which appears at the end of June will probably include the following articles

- Dr J TINBERGEN, Scheveningen *Einfluß von Kaufkraftregulierung auf den Konjunkturverlauf* Privatdozent Dr O MORGENSTERN, Wien *Zeit und Wertlehre* Dr G LOVASY, Wien *Schutzzölle bei unvollkommener Konkurrenz* Dr F WALTER, Wien *Kapital und Kapitalismus* O FREIHERR VON MERING, Berlin *Volkswirtschaftliche Produktivität und volkswirtschaftlicher Gesamtnutzen* Dr K H STEPHANS, Lubeck *Bemerkungen zum Wertaspekt der modernen Verteilungstheorie*

New Books

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Kapital und Produktion. Von Richard v Strigl, Professor an der Universität Wien X, 247 Seiten („Beiträge zur Konjunkturforschung“, Nr 7 Herausgegeben vom Österreichischen Institut für Konjunkturforschung) 1934 RM 7 80

Inhaltsübersicht Die Produktionsumwege — Die horizontale und vertikale Verbundenheit der Preise — Geld und Kapital — Anhang I Zum Problem der Konjunkturen — Anhang II Ein Nachwort zum Kapitalbegriff

Gegenüber (meiner Auffassung, die zu sehr an einer starren Vorstellung von Kapital haftet, zeigt der Verfasser, daß das Kapital immer nur ein im Prozeß der Investierung und Wiederfreisetzung Bewegtes ist. Das gilt für Investitionen, die durch Bindung von freiem Kapital entstehen, nicht minder als für das Betriebskapital. Die Freisetzung des einmal gebundenen freien Kapitals und seine neuerliche Investierung ermöglicht die Erhaltung des Kapitalbestandes der Wirtschaft. Das entscheidende Problem der Produktion ist die Regulierung ihres Aufbaues in der Weise, daß das Ausmaß der Investitionen sich einer fortlaufenden Versorgung mit freiem Kapital anpaßt. Es wird gezeigt, daß nur die Bildung eines der Versorgung mit realem Sparkapital entsprechenden Zinsfußes das Ausmaß der Investitionen in der Weise bestimmen kann, daß sie sich in den Rahmen der wirtschaftlichen Gegebenheiten einfügen. Störungen in der Bildung des Zinsfußes müssen ganz so wie alle Beeinflussungen des Wirtschaftsablaufes vom Geld aus dazu führen, daß auch eine Störung im Aufbau der Produktion eintritt. Die Besprechung des Konjunkturverlaufes gibt Anlaß zu einer Erörterung der möglichen Maßnahmen der Konjunkturpolitik. Besonderes Gewicht wird in dem Buche auf eine Klärung des Verhältnisses zwischen Geld und Kapital gelegt, des weiteren auf die Behandlung der Ursachen übermäßiger Bindung des Kapitals in dauerhaften Anlagen.

Das Buch bietet vielfache Ausblicke auf höchst aktuelle praktische Probleme und ist nicht nur für den theoretisch Interessierten, sondern auch für den, der sich mit Wirtschaftspolitik und Betriebsführung befaßt, von der allergrößten Bedeutung.

Die Grenzen der Wirtschaftspolitik. Von Oskar Morgenstern, Privatdozent an der Universität Wien, Leiter des Österreichischen Institutes für Konjunkturforschung VII, 136 Seiten („Beiträge zur Konjunkturforschung“, Nr 5 Herausgegeben vom Österreichischen Institut für Konjunkturforschung) 1934 RM 4 80

Inhaltsübersicht 1 Einleitung — 2 Das Anwendungsproblem — 3 Die starren Systeme der Wirtschaftspolitik — 4 Die Streuung der Wirkungen der Wirtschaftspolitik — 5 Die gegenseitigen Abhängigkeiten der wirtschaftspolitischen Maßnahmen — 6 Die durch Macht gesetzten Grenzen — 7 Immanente Schwierigkeiten der Wirtschaftspolitik — 8 Die Besonderheiten der Konjunkturpolitik — 9 Die Gefahren der Nationalökonomie — 10 Schluß Staat und Wirtschaftspolitik — Anhang

Die vorliegende Schrift behandelt in ausführlicher Weise die Frage, inwieweit die Nationalökonomie für die Wirtschaftspolitik in Betracht kommt, d. h. sie befaßt sich mit dem sog. „Anwendungsproblem“. Es wird gegenüber allen jenen, die der Nationalökonomie die Eigenschaft einer Erfahrungswissenschaft absprechen wollen und sie gleichzeitig mit irgendwelchen Systemen der Wirtschaftspolitik, wie dem Liberalismus oder Sozialismus, identifizieren mochten, ein klarer Trennungsschnitt gezogen. In großen Zusammenhängen werden freimutig die zahlreichen Schwierigkeiten aufgezeigt, die sich einer rationalen Wirtschaftspolitik in den Weg stellen. Ferner werden die Fragen der Widerspruchsfreiheit der wirtschaftspolitischen Maßnahmen, die Beziehungen von Macht und ökonomischem Gesetz usw. besprochen. Da es aber in der Wirtschaftspolitik für die Nationalökonomie keinen wie immer gearteten Ersatz gibt, muß namentlich der „Vulgarökonomie“ der gefährlichsten Pseudowissenschaft der Gegenwart, rücksichtsloser Kampf angesagt werden. Dadurch wurde die wissenschaftliche Periode der Wirtschaftspolitik eingeleitet, deren hauptsächlichsten Merkmale eben falls gekennzeichnet werden.

Führer durch die Krisenpolitik. Von Fritz Machlup, Wien XV, 232 Seiten („Beiträge zur Konjunkturforschung“, Nr 6 Herausgegeben vom Österreichischen Institut für Konjunkturforschung) 1934 RM 7 80

Inhaltsübersicht Wirtschaftspolitik und Krisenpolitik — Ankurbelung durch Kreditausweitung — Arbeitsbeschaffung durch Investitionen — Verkürzung der Arbeitszeit — Senkung der Produktionskosten — Erleichterung der Schuldenlast — Innenkolonisation und Naturalwirtschaft — Autarkisierung — Abbau der Außenhandelszschranken — Reformen des Geldwesens — Sparen oder Konsumieren — Beschränkung oder Beschleunigung des technischen Fortschrittes — Einschränkung der Konkurrenz — Planwirtschaft — Sachregister — Empfohlene Schriften

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Die Theorie der Marktformen mit unvollständiger Konkurrenz, die mit Cournot ansetzte und seit Edgeworth in steigendem Maße Gegenstand der wissenschaftlichen Diskussion geworden ist, hat in dem vorliegenden Werk eine zusammenfassende und abschließende Behandlung gefunden. Die zentrale Bedeutung, welche das hier untersuchte Problem im Gefolge der zunehmenden Konzentration in der Wirtschaft gewinnen mußte, macht das vorliegende Werk zu einer höchst aktuellen Publikation. Die grundlegenden neuen Gesichtspunkte, unter denen das Problem angepackt und gelöst wird, bringen eine Erklärung für das Versagen der autonomen Wirtschaft im Zeitalter der industriellen Zusammenschlüsse. Sie führen zu einem Ansatzpunkt für die theoretische Begründung der integralen Marktregulierungspolitik des autoritären Staates. Ein mathematischer Anhang bringt die exakte Begründung für die im Text vorgetragenen Erkenntnisse.

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THE ECONOMIC JOURNAL

JUNE, 1934

THE ANNUAL MEETING OF THE ROYAL ECONOMIC SOCIETY

THE forty-fourth Annual Meeting of the Royal Economic Society was held at the London School of Economics on April 20, 1934

The President, Professor Edwin Cannan, was in the Chair

Before the transaction of the formal business, which is dealt with in Current Topics below, the President delivered the following address to members of the Society and their guests

THE FUTURE OF GOLD IN RELATION TO DEMAND

A COST-OF-PRODUCTION theory of value is of little use for explaining fluctuations in the value of things which last a long time and exist in quantities which are very large in proportion to any annual additions which are made to them. We might reasonably refer to high cost of building materials and labour in accounting for the high value of houses in a district where new houses were springing up like mushrooms, but in a district where no new houses, or very few in proportion to the number existing, were being built, we should be content to think of the supply of houses as being furnished, not by the bricklayers and carpenters building new ones, but by the number actually in existence.

Some metals, iron especially, are subject to so much waste by various agencies that the annual production is large compared with the stock at each moment in existence, and in regard to these we rightly regard cost of production as a most powerful element in the determination of value. But the precious metals, of which we may take gold as the type, are only subject to comparatively small losses by abrasion, by being buried in the decayed teeth of corpses, and so on.

One consequence of this is that long before the general cost-of-production theory of value was abandoned, there grew up along-

side of it what was called a "quantity theory" for the value of money. Ricardo himself, though he tried to believe that cost was really the regulator of the value of currency as of all other important articles, yet declares roundly in the chapter on Taxes on Gold that the value of money is regulated *entirely* by its quantity "The demand for money is regulated entirely by its value and its value by its quantity" The passage should be set alongside of the third paragraph of the first chapter of the *Principles*, which begins with a statement that the value of some commodities "is determined by their scarcity alone," but ends with the proposition that the value of these same commodities "varies with the varying wealth and inclinations of those who are desirous to possess them" McCulloch questions whether a classical education would not have spoilt Ricardo as an economist, and perhaps that is true, but I cannot help thinking that much trouble would have been saved if in his youth he had written essays for a vigilant preceptor armed with a big blue pencil Of course, if the point had been clearly put before them, neither he nor anyone else would have denied that various things, among which the most obvious is a change in the magnitude of the working population, will vary the value of a currency when its quantity has not varied at all By the time, early in the present century, when F A Walker wrote the article on the "Quantity Theory of Money" for Palgrave's *Dictionary*, the theory was reduced by those who supported, or at any rate did not dislike it, to the very innocuous doctrine that the value of money is determined, like the value of everything else, by supply *and* demand

But it seems undeniable that throughout that long period the causes of variation in the value of money which lie on the demand side were very inadequately treated. Partly this was the result of a fault in the method of exposition of economic theory The economists of the time were too fond of picking out some favourite influence and saying that something depended on this influence *ceteris paribus*, other things being equal, or the same, or disregarded Then they would be attacked by someone who saw that some other influence had its importance and who could not or would not see that, no matter how much importance it had, it was one of the "other things" which were "impounded," as Marshall says, in the *ceteris paribus*, so that the proposition attacked was quite sufficiently protected Even the supporters of the doctrine in question would often themselves forget this, and would defend the doctrine with acrimony, instead of pointing out

to their critic that it was quite open to him to pick out *his* favourite influence and relegate their own to the pound of *ceteris paribus*. In this way quantity and anti-quantity theorists had many a confused *mêlée* which might have been avoided if they had only seen that it did not matter two straws whether they said that the value of money depends on its quantity when the demand for it is unchanged, or that it depends on the demand for it when its quantity is unchanged. On the whole the attackers of the quantity theory were the worse equipped for the fight, and failed consequently to make the best of the case for the demand influences.

Besides this, the historical events of the period favoured attention to the quantity side of the problem rather than the demand side. The Black Death was a very old story, and I do not think any historian had ever hit on what seems the very obvious idea that the rise of prices which followed it was the result of the diminished population being left with an undiminished currency, so that David Hume's well-known supposition of the quantity of currency in each man's pocket being increased overnight was fulfilled by diminution of demand instead of by increase of supply. There was no such drop in population in the nineteenth century, and the increase which took place, though rapid, was continuous. The changes which occurred in the monetary demand of individuals and institutions were not spectacular enough to force people to face the fact that such changes might be important. On the other hand, at the beginning of the period the effects of increase of currency were fresh in men's minds in consequence of the issue of assignats in France and the Bank restriction in England, while in the middle and at the end of the period there were changes in the production of both gold and silver which were spectacular enough to call very general attention to them and continued long enough to affect appreciably the "quantity," and through the quantity, the value of gold and silver standard money.

But the war of 1914-18 opened a new era, in which the influence of demand has been no longer overshadowed by that of quantity. It is true that quantity had a magnificent innings in the Continental inflations, culminating when German thoroughness multiplied the mark till it fell to less than a billionth of its former value. But since 1914 we have seen first an immense fall in the value of gold money, and then an approximately equal rise, and this fluctuation, quite unprecedented in combined magnitude and rapidity, cannot be ascribed to any change in supply or quantity,

since the quantity has been increasing all the time, and rather more rapidly when the value was rising than when it was falling. Change in demand has been much more important than change in supply.

There seems good reason for believing that this supremacy of demand is likely to continue indefinitely. Great losses of existing quantity are almost impossible—even the amounts which go to the bottom of the sea are often recovered—and as the quantity above ground steadily increases, the proportion of what is still below ground becomes smaller, so that the likelihood of freshly discovered gold being large in proportion to existing quantity, and therefore having a big effect on its value, becomes smaller and smaller. Moreover, great and rapid changes on the demand side are more and more probable as the world becomes less bound by custom and tradition and more and more capable of arriving at conscious decisions. And, further, modern developments have industrialised the production of gold, so that instead of its being very largely a matter of chance whether much gold or little is being produced, we may rely on the production being encouraged by increase of value and discouraged by decrease of value almost as much as the production of iron or lead.

It is consequently desirable to reverse the common practice of forecasting the future value of gold by speculating on changes in its production and assuming that demand will either remain unchanged or steadily increase by some arbitrarily chosen figure such as three per cent per annum. Instead, let us, at any rate for the time being, suppose that quantity will continue to increase at its present rate or at a rate very slowly diminishing, and ask ourselves what are the possibilities and probabilities in regard to demand.

Under the influence of the passion induced by war nations will melt down their church bells to make guns, and become willing to exchange even so venerated an idol as the gold store of their central bank for munitions and the military services of mercenary foreign troops. They have always done it, and would do it again if a great war should recur. But if that happens, scarcely anything will survive. Let us not worry over so horrible a hypothesis, but confine ourselves to the troubles of peace-time.

I think the first thing to notice is that modern changes have wiped out what used to be the biggest and steadiest demand for gold, namely, the demand for the pockets and tills of the people. No longer are wealthy persons described as "pursey", no longer do tenants of farms and houses accumulate gold to pay

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POPULATION

NEARLY half a century ago Charles Booth broke entirely new ground in social research by his classical Survey of London. The value of surveys of this nature has become increasingly evident with the passage of time, Charles Booth's work in London is being repeated to-day and is in course of publication under the title of the *New Survey of London Life and Labour*. Hitherto no investigation of comparable scope has been made outside London. But contemporarily with the new London Survey an investigation has been made of Merseyside, a compact northern industrial area with about 1½ million inhabitants. The Merseyside Survey presents a detailed and many-sided picture of life and industry, moreover, the results can be compared with those obtained in London, since care was taken to apply much the same standards of measurement in both cases. The picture thus constructed not only has interest and value for the locality, providing an authoritative index of conditions at a definite date by which changes will be measured in future years, but it forms a complement to the London survey and helps to fill the gap in our detailed knowledge of conditions outside London.

The Merseyside Survey has been directed from the Social Science Department of the University of Liverpool. The full Report is to be issued in three volumes. They are likely to appeal to different classes of reader, the work has therefore been planned so that each volume is self-contained. In the first, the whole population is analysed and discussion centres on the housing problem, poverty and working-class expenditure. The second volume is concerned with the earning part of the population and the unemployed, while the third is reserved for the dependent part of the community, including the difficult class that might be defined as sub-normal. As the table of contents indicates, the problems raised in these volumes are clearly of national importance, and they are critically examined in a region that is in many respects representative of other parts of England.

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their next quarter's rent Modern invention has provided a currency of paper, which most people have found more convenient, and recent legislation has taken care that all should use it whether they like it or not Now, though this was an economy of gold, it was not a very big one, since few countries had any very large sum in gold in actual circulation, and such as it was, the central banks promptly nullified it to a great extent by increasing their holdings The monetary demand for gold, the future of which we have to consider, is no longer the demand of the people for pocket and till money, but the demand of the central banks and of the persons who are called (not very correctly, as I shall show presently) "hoarders"

First then of the demand of the central banks Can we forecast this at all? We may divide the subject usefully into demand by the banks of countries on the gold standard and the banks of the other countries

Most of the difficulty in arriving at a clear comprehension of the working of the gold standard arises from the widespread belief that under it gold, instead of being moved in response to different offers like wheat and all other commodities, "flows" automatically about the world regardless of what can be got for it in the different countries Confused by this belief, the monetary authorities of countries which were adding enormously to their central bank's stock of gold, have protested with their hands on their hearts that they have been unwilling recipients of the accessions which have poured in on them They honestly think that their acquisition of the gold was not due to their offering more for it than other people, since they have been offering just the same amount as before—in *their own currency* This, of course, ignores the fact that the fixed amount of currency given for each ounce of gold has no intrinsic unalterable value Each of the fixed prices in currency offered for the ounce of gold can be and is varied in purchasing power from time to time, and gold is naturally sold to the country in which the fixed price has the highest purchasing power Incapacity to appreciate this was the more inexcusable having regard to the fact that it had long been known that over-issue of paper currency led to "outflow" of gold if outflow was caused by over-issue, why should not inflow be caused by under-issue?

The explanation of the mistake seems to lie in the common tendency to confuse general and national, that is local, economic phenomena To each nation, thinking of itself alone, it seems obvious that plenty of gold means cheap gold *alas* high prices

reckoned in its own gold-standard currency, and therefore imports of gold, causing greater plenty of gold in the importing country, must, it seems, tend to cheapen the national currency. If the imported gold is not "sterilised" by being locked up in vaults without any additional currency being issued in consequence of its presence, this is, of course, true enough, but that does not prevent the purchase of the gold by the country in question from having its natural effect of tending to raise the world-value of gold. The national currency is lowered in value not to the value of gold as it was, but to its rather higher new value which is the consequence of the purchase. The diminution in the value has been caused not by the purchase and importation of the gold, but by the increase of the paper currency, and if that currency had been increased sufficiently to prevent any purchase and importation of gold, both its value and that of gold would have been lower than they became in consequence of the purchase and importation. The importation and consequent increase of currency kept the national currency and gold on the same level, but that level was higher than it need have been, inasmuch as the world-value of gold was raised by the unnecessary demand.

Even if this had been perfectly understood, there is little reason to suppose that it would have much affected the action of the national monetary authorities. Those of them who protested that it was due to no action of theirs that gold was pouring into their country were in reality unostentatiously rejoicing in its arrival, and would not have stirred a finger to stop it if they had known how to do so. The countries which received no inflow did not thank heaven that they were not acquiring, by the sweat of their brow in producing goods for export, a mass of unproductive metal, but bleated weakly about the "maldistribution" of gold, and were not sorry for, but only jealous of those who were getting it.

As it has been in the past, so it is likely to be in the future for another half-century at least. At the present rate of progress in economic education it is unlikely that understanding of the matter will become at all widespread in that length of time, and if it did, we may be fairly sure that the proper remedy would not be applied.

For what is that remedy? Evidently such a regulation of all the gold-standard currencies taken together as, in conjunction with the demand of non-gold-standard countries and the world's demand for industrial purposes, will keep the value of gold approximately stable. But is there the least probability of a

common authority being set up with the power of prescribing to each of all the national authorities how much gold it is to absorb for monetary purposes? I should say, certainly not. Regulation of armaments by mutual agreement is a comparatively simple matter compared with this, and yet is found, to say the least of it, very difficult.

In regard to regulation of demands for gold, as in the regulation of armaments, we have to face the fact that each country will inevitably play for its own individual safety. That safety under the international gold standard—if we assume that the standard is to be adhered to without capricious “goings off” at early and frequent convenience—is to be looked for in a large reserve of gold out of which a “run” for gold on the country by persons and institutions outside it may be met when it occurs. The danger of such runs has been much increased since the War by the slovenly conduct of national finances. Instead of following sound financial tradition and funding their short-term obligations incurred during the War at the earliest possible opportunity, governments have been beguiled by the lower interest of the short-term market into maintaining a mass of short-term obligations scarcely smaller than the whole debt of pre-war times. If held directly by persons abroad, the existence in any country of such obligations, payable in gold or in currency convertible into gold, obviously increases the foreigners’ ability to draw out much gold, but it also does so even when the obligations are not held directly by foreigners. They are then held at home by banks and kindred institutions which naturally hold that they are safe in accepting large deposits from foreigners if they put what they receive into Treasury obligations which become due in gold in a few weeks.

As the recent conduct of governments suggests that they will go on neglecting the most favourable opportunities for funding, we may expect an increase rather than a decrease in the demands for large gold reserves by each nation which is to any extent the depository for property which the owners desire to keep liquid and outside their own country, and there is no reason to expect that this increase of demand by the depository countries will be met by a corresponding decrease in the demand of the other gold-standard countries. I do not overlook the widespread belief that extensive devaluation of currencies will meet and defeat the effect of a largely increased demand, but I think that devaluation as a single “once for all” change can only give very temporary relief. The American idea is reported to be that devaluation sets free “rivers of money” by making gold reserves larger in proportion

to liabilities. If, it is supposed, the liabilities of the banking system are 100 dollars and 40 per cent in gold dollars are in reserve, and then the 40 gold dollars are each cut in half, and each of the halves are called dollars, there will be 80 dollars in reserve, and consequently there will be great "monetary ease." For the moment this may be so, but in the long run the demand for gold will not be diminished, since the liabilities reckoned in dollars will grow till they too are doubled and have reduced the reserves to the old 40 per cent. The amount which people want to keep "liquid," that is in such a form that they can be sure of having definite sums of money to spend or invest when they ask for it, bears at any time a definite relation to the general real wealth of the country. In spite of the many curious doctrines about the growth of bank deposits which are prevalent, it is generally admitted that there is a connection between them and population and wealth. No one, I think, will doubt that if the gloomy prognostication of the panic-stricken bishop in August 1931 had been realised and the pound had fallen to what had been the value of the penny, bank deposits in this country, if it had withstood the shock pretty well, would now be already far on the way towards being 480 instead of 2 thousand millions. The diminution of the value of the unit in which deposits are payable will, of course, diminish the value of the deposits existing at the moment, but they will at once start climbing again till they reach something like the old aggregate value, so that if a currency is devalued to 50 per cent, we may confidently expect that after a few years the aggregate of deposits reckoned in the new units will be double what it was reckoned in the old units before the devaluation. And, of course, when that point has been reached, double the old quantity of gold reserve will be regarded as necessary, and the demand for gold will be just as large as before the change.

To put the same thing in another way, if all business were done in troy ounces of gold, and then legislation were passed providing that the ounce should be reduced from 480 to 240 grams, debtors under existing contracts would rejoice and creditors mourn, but no one would suppose that the demand for gold would be permanently reduced, any more than they would expect the demand for coal to fall if Parliament decreed that a ton should henceforward be 1120 instead of 2240 pounds avoirdupois.

Thus a once-for-all devaluation certainly raises prices, but it is once-for-all, and when prices have once risen in proportion to the devaluation, just as much gold will be demanded as before, and if there is a tendency to rise in the value of gold, this tendency

will resume its working Of course, if devaluation were not once-for-all but was continuous, something per cent. this year, next year and all years after, it could successfully combat a continuing tendency to a fall of prices reckoned in the currency to which the devaluation was applied But this would not affect the demand for gold for reserve against the devalued currency With successive devaluations the amount of gold to be held in reserve against each dollar would be diminishing, but as the number of dollars would be proportionally increasing, the total of gold to be held would remain as before

The question may be asked, Cannot the countries remaining on or returning to the gold standard expect any assistance in keeping down the value of gold from the central banks of the countries which remain off, or go off, the standard ?

Far too sanguine hopes have been entertained in this direction It has even been supposed by some that a stampede of countries going off gold might reduce the monetary demand for it almost to nothing It was forgotten that before the fall of value went very far it would be abruptly checked by automatic returns to the gold standard by this and other countries which, when they went off it, suspended the provisions of their laws providing for the sales of gold by their banks, but did not suspend the provisions requiring purchases of gold But this is only incidental The really important fact about countries which go off the gold standard is that they do not in practice diminish their demand for gold but rather increase it Countries like Spain and Argentina have been for long periods off the gold standard, and have yet maintained their gold holdings without diminution This country went off in 1931 and has since increased its gold holding enormously The United States, though holding much more gold than any other country, embarked on a gold-buying policy soon after deliberately departing from the old gold standard

Countries off the gold standard have indeed a plausible excuse for holding a certain amount of gold They can say that judicious management of such a fund—selling some of the gold when the foreign exchange goes badly against the country's currency and replacing it by purchase when the swing is in the other direction—will diminish violent fluctuations in exchange and thereby facilitate commerce with the outside world This is perfectly true The only trouble is that the management is not likely to be judicious To use the fund judiciously the managers must be better speculators than the ordinary operators on the exchange markets In fact they are inclined by the traditional worship of gold to be too

niggardly in parting with it, and to be too greedy in acquiring it "Equalisation funds" are thus likely both to grow and to consist more and more largely of actual gold rather than of domestic and foreign currency

Leaving the central banks, we have to ask ourselves what are the probabilities of increase or decrease of demand on the part of the other institutions and the individuals which are said to hoard gold. Hoarding is not really a very good name for their action. A hoarder is properly a person who keeps a store indefinitely because he likes to keep it. But the so-called hoarders of gold are becoming less and less of this type. They do not now bury much gold in their gardens with no clear idea of how it is ever going to be useful to them. They put it mostly in safe-deposit vaults—preferring a foreign country for the purpose, because governments have shown themselves more ready to steal gold from their subjects than from foreigners—with the full intention of taking it out and parting with it when it has risen in value measured in their national currency. They are speculators in gold, holding for a rise in its currency value. The more frequently devaluations take place, the greater are their holdings likely to be.

About the industrial demand, all we can say is that as gold is used chiefly for ornament and ostentation, and for these purposes high value is a recommendation, we can scarcely expect from that quarter any counteracting of the tendency of gold to rise in value.

If a monetary standard was known to be steadily rising, and to be certain to go on rising steadily at the same rate, the rise would probably be harmless. At any rate we may be sure that it would not cause the difficulties which come from unexpected violent deflation. Somehow or other people would get into the way of allowing for it in all their monetary transactions and contracts. But there is good reason for expecting the generally increasing demand for gold to act in fits and starts. Equalisation funds, central banks and hoarders are not at all likely to produce between them anything but an extremely unsteady demand.

Though it is going a little beyond my title, I should like to add that while gold has thus been deteriorating as a standard, the only alternative at present practicable, inconvertible paper currencies, independently controlled in each country, has greatly gained in respectability. While gold has been losing ground because the demand for it has become more unstable, inconvertible paper has gained ground because, though the doctrine of due limitation of quantity is still very imperfectly understood, limitation of some sort is, in fact, practised. The awful example of the effects of

unlimited issue which the Germans worked out in 1923 has terrified the world. Even the bold Roosevelt in search of a rise of prices, preferred to push the most unlikely buttons rather than the one labelled "greenbacks," which would certainly be effectual. So far neither England nor any of the countries which have gone off gold since she did in 1931, appear likely to go far towards limitless issue and bottomless depreciation. And if any of them should do so, it would not be from a misapprehension of the old kind but from an insane desire to give exports to the foreigner, not for gold but for nothing at all.

EDWIN CANNAN

THE DEMAND FOR MONEY

Most quantity theories of money are ostensibly demand and supply theories. Unfortunately, less attention has been given to the demand for than to the supply of money. In fact, some expounders of the quantity theory ignore altogether the demand for money, and proceed on the assumption that it is only the supply that counts. This ignoring of the subject of demand and concentration on the subject of supply seems to be based on the further assumption that the demand for money is, at a given time and under a given set of circumstances, fixed, that it consists exclusively in the number of commodities and services that are for sale, that the elasticity of the demand for money is unity, or that the demand for one kind of money is the same as that for any other kind. None of these assumptions is true, either in theory or fact. At least, as must be granted even by its defenders, it is not to be accepted without a critical examination. The presumption is that the purchasing power of money is the resultant of two variable factors, the demand for it and the supply of it, and not of a single factor.

If the demand for money consists exclusively in the money work to be done, to use Walker's phrase, and if the money work to be done consists exclusively in the purchase of commodities and services, which is not true, as will be shown later, it would seem to follow that one kind of money would do as well as any other, and that one would have the same purchasing power as another, provided the quantity issued were the same. If that were true, going off the gold standard should not be followed by any depreciation of paper money, provided there was no increase in the quantity. Moreover, not only would irredeemable paper money have the same purchasing power as redeemable paper money, but non-legal tender paper would have the same purchasing power as legal tender, and paper which the Government refused to accept for duties and taxes would have the same purchasing power as money which it was willing to accept. This is known to be contrary to fact. It seems necessary, therefore, to re-examine the quantity theory. If the depreciation of irredeemable paper, or of paper which is not legal tender and not accepted by the Government, cannot be explained solely on the

ground of an increase in the supply of it, there is at least a possibility that it may have to be explained on the ground of a decrease in the demand for it

The demand for money,¹ like the demand for anything else, is the resultant of two factors the desire for it and the possession of something to give in exchange for it This statement would stand even if one believed that the desire for money were infinite, or that it was the equivalent of the desire for everything that anyone wanted to buy Even that desire for money would not constitute an effective demand for it unless there were things that could actually be given in exchange for it The total number of commodities offered for sale constitute the ability to "purchase" money, and not the desire for it To confuse the ability to purchase a thing with the desire for it is to fall into a logical error

Besides, it is not correct to say that the desire for money is the equivalent of the desire for all the commodities and services that anyone cares to buy That is like saying that the desire for axes is the equivalent of the desire for all the wood that axes will chop There are other ways of getting wood The total desire for axes is based on the superiority of axes over other instruments that might be used It is the equivalent of the total desire for all the savings which axes make possible, over other known ways or instruments Similarly, the total desire for money is based partly on the superiority of money over other ways of getting the things which money will buy, and partly on its utility as a store of value It is the equivalent of the total desire for the savings which money enables us to make in the getting of the things which money will buy, and its superior convenience as a store of value

A parallel argument contends that the utility of money is the utility of all the things which money will buy As an explanation of the purchasing power of money this is singularly naive It ought to be reasonably clear that the utility of money is its usefulness Why is money useful? Because of the economies which result from its use Some of these economies are easily understood when one considers the difficulties of barter Part of the usefulness, or the utility of money, consists in its power to remove those difficulties To say, on the other hand, that the purchasing power of money depends on its utility, and that its utility is that of the things it will purchase, resolves itself into

¹ This is sometimes called the effective demand, but there seems to be no good reason for retaining the adjective

the not very illuminating proposition that the purchasing power of money depends upon the things which it will purchase. That proposition, either in its abbreviated or its expanded form, still leaves us in the dark as to what determines how many things it will purchase.

If it is reasonably clear that the desire for money is one factor in the demand for money, and the possession by the people of commodities and services to give in exchange for it (to "purchase" it) is the other factor, we may proceed with our analysis. There are other ways of exchanging goods and services besides the use of actual money. If the money in existence becomes, for any reason, less desirable, more exchanges may be effected in these other ways. If this is done, there is a decrease in the demand for money, and, unless the supply is correspondingly decreased, its purchasing power will fall and prices, quoted in terms of money, will rise.

One of these other ways of effecting exchanges is direct barter, always an appreciable though minor form of exchange. Barter of commodities and services by means of book credit is of more importance than is appreciated by those who are not familiar with the practices of country stores. Exchanging services for goods is also a practice of some importance. Besides, the number of goods and services for sale is not unaffected by the kind of money available. In a period of unstable currency, farmers and some others reduce their trading operations. Subsistence farming and making goods for home consumption are ways of avoiding the use of a kind of money in which people have lost confidence. In extreme cases, such as the post-war inflation in certain continental countries, the resort to barter was noticeable. It was a way of making the necessary exchanges without having to accept a kind of money the purchasing power of which was perceptibly shrinking from day to day and from hour to hour.

Again, a depreciating or an uncertain currency may, in some cases at least, result in hoarding commodities. When, for example, it is believed that the money in circulation is of doubtful purchasing power, with a consequent instability of commodity prices, the owners of commodities have a motive for holding them. The present (January 1934) policy of the United States Government of offering higher and higher, or at least unpredictable, prices for gold, with the implied purpose of inflation, provides gold-miners and other owners of gold with an excellent motive for holding it. Nothing but the threat of a jail sentence or some other form of unpleasantness can counteract that motive. In

the case of gold, at least, there may be a decrease in the quantity offered in exchange for a kind of money which is, for any reason, deemed undesirable. The same may be true of other commodities. In short, the relative desirability or undesirability of the kind of money in circulation is a factor in determining the quantity of commodities and services offered for sale.

It may be suggested, however, that when the Government repudiates its promises to pay gold for paper, the circulation of paper money speeds up, and that this increase in the velocity of the circulation constitutes an effective increase in the supply of money. That the total power to effect exchanges by means of money is a product of the volume of money multiplied by its velocity of circulation is not questioned, but why should the velocity of circulation of paper money be speeded up by repudiation? One answer and, so far as the writer knows, the only answer, is that when paper money is no longer redeemable it becomes less desirable, and therefore is spent more promptly. It loses some of its desirability as a store of value. Those who have it are more anxious to get rid of it, or less anxious to keep it, therefore they spend it more quickly than they did when it was redeemable.

There are two replies to that argument, either of which is sufficient. First, the argument is an admission that irredeemable paper is less desirable than redeemable paper. If it is less desirable, there is less demand for it. If there is less demand for it, its purchasing power will fall unless the lessened demand is balanced by a decrease in the number of commodities and services offered for sale. Secondly, admitting that irredeemable paper is less desirable than redeemable paper, this is just as likely to affect the sellers as the buyers of commodities and services. If repudiation makes those who have money more eager to get rid of it and therefore more eager to buy, it also makes those who have commodities and services less eager to get it and therefore less eager to sell. They have to be bribed to sell by the offer of higher prices. There is no reason to think that potential buyers are more strongly affected by the decreasing desirability of money than potential sellers. The increased eagerness to buy is cancelled by a decreased eagerness to sell. The net result is likely to be no increase at all in the total sales, measured in terms of commodities and services, and no real increase in the velocity of circulation. Yet a decrease in the desire for paper money on the part of both buyers and sellers would certainly cheapen it. In short, it is the decrease in the desire for paper money and not

an increase in its velocity of circulation which explains its depreciation after repudiation. In reality, it is the decrease in the desire for it which explains any presumptive increase in its velocity.

One of the uses of money, or one of the purposes for which it is desired, is to serve as a store of value. This use may be less important than its use as a medium of exchange, but its importance is considerable. Using money as a store of value does not necessarily mean hoarding it, though it may mean that, and so long as there are hoarders, their desire for money must constitute a part of the total demand. But using money as a store of value may also mean keeping a little money in one's pocket for unforeseen uses when cash may be necessary, it may mean keeping an adequate working balance in one's cash drawer, and, of course, it may mean keeping adequate bank reserves. This use of money is closely associated with its use as a medium of exchange, but the two uses are logically separable. In order to serve effectively as a store of value, an article must have general and fairly stable purchasing power. Other things besides money have this kind of purchasing power and may and do serve as stores of value. The precious metals in bullion form as well as coin serve this purpose. So also do precious stones, jewellery, rich raiment, and various other things. On the other hand, bank cheques serve very well within limits as media of exchange, but not as stores of value.

In times of rapid inflation, money becomes a poor store of value, though still serving as a medium of exchange. In such times, other commodities tend to be substituted for money as stores of value. This is coming to be called hoarding commodities, but the phenomenon is not new. Oriental countries have long used, as stores of value, commodities which combine great value with small bulk. At the present time in the United States, with the threat of inflation hanging over every one, there is a noticeable tendency to store up other durable things, such as canned goods, clothing, and even bedding. While these are stored for home use rather than as a fund of purchasing power, and are therefore rather poor stores of value, nevertheless they seem to be displacing money, to a slight degree, as a store of value.

As a result of this slight tendency to substitute other commodities for money as a store of value, there is, first, a slight increase in the demand for those commodities that can be stored, and, secondly, a slight decrease in the demand for money. The

combined result of these is a fall in the purchasing power of money and a rise in the price index. This results in a greater fall in the purchasing power of money than could be explained solely on the ground of an increase in its supply. In fact, as shown above, there may be a fall in the purchasing power of money without any increase in its supply. In that case, the total purchasing power of all the money in the country may decrease without any decrease in the number of commodities and services on the market. There may also be less total purchasing power in the form of money after inflation than before. That would certainly happen if inflation decreased the desire for money and increased the desire for other commodities as a store of value. The elasticity of the demand for money may be less than unity.

There is a somewhat popular but incorrect opinion to the effect that the total purchasing power of all the money in existence must be equal to the total purchasing power of all the exchangeable commodities and services in existence. The only possible way of supporting this opinion is to say, first, that the total purchasing power of money is the product of its volume multiplied by its velocity and, secondly, that the total purchasing power of commodities and services is the product of their volume multiplied by their velocity. This is a dangerous and unsatisfactory subterfuge. There is, to begin with, the difficulty of attaching the concept of velocity to a service which is rendered and paid for but once. Again, there is no necessary relationship between the velocity of money and the velocity of the commodities and services which sell for money. In order to find out what is the velocity of a hodge-podge of commodities and services, each of which has its own velocity, if it has any, it is necessary to beg the question by assuming, to begin with, the equality of the two products mentioned above. Having made this assumption, the process is simple. It is only necessary to find, first, the product of the volume of money multiplied by its velocity, and, secondly, the volume of commodities and services. Then you divide the former by the latter, a process which does not add anything to the assumption with which it started.

There is only one definite ratio that can be established between the value of money and the value of commodities. At a given time, a certain quantity of money is being transferred from one person to another in the purchase of commodities, and a given quantity of commodities is being transferred from one person to another in exchange for money. These two quantities, the money actually being paid for commodities and the commodities actually

being sold for money at the same time, may be assumed to be equal in value or purchasing power. But, at that time, there is a great deal of money and a great mass of commodities not in process of transfer. Between these two quantities there is no necessary or known ratio. It may change from time to time, and there is no possible way of determining in advance what that ratio is likely to be.

As already stated, the demand for money is the resultant of two factors: the desire for it and the number of things available for sale. The desire for it is, in turn, made up of several elements. First, there is the fact that the Government will accept it in payments to itself; secondly, there is the fact that creditors must accept it; thirdly, there is the fact, sometimes, that the Government will give gold for it; fourthly—a resultant of the first three—there is the fact that custom has made it acceptable in private purchases. Remove any of these elements and the purchasing power of money will decrease without any increase in the quantity of money or any decrease in the number of commodities and services available for exchange.

One element in the desire for money—that is, one of the things which make it desirable—is the fact that the Government will accept it in payments to itself. This element alone would create a demand for money and enable the Government to float a small quantity, even of irredeemable and non-legal tender paper money, without depreciation. Take away this element—that is, let the Government refuse to accept it, even in the purchase of postage stamps—and it becomes less desirable, and still less could be circulated without depreciation. An excellent illustration is found in the famous case of President Jackson's Specie Circular. Large numbers of state bank-notes which had no other basis of value were enabled to circulate by the simple fact that the Government of the United States was willing to accept them in payment for Government land which was then being sold on a large scale. When the President announced in his Specie Circular that only specie would thereafter be accepted, the sole basis of the value of many of those bank-notes was destroyed, and they became practically worthless. Even private companies, when the law permitted it, have been known to issue their own scrip and circulate it, very much as money circulates, in local communities. They did this by simply accepting their own scrip in the purchase of supplies at the company stores. Let such a company refuse to accept its own scrip and the value of the scrip would disappear as promptly as that of a bank cheque disappears when it cannot

be converted into cash, or as state bank-notes did when President Jackson refused to accept them in payment for Government land

So long, therefore, as the Government is willing to accept a given kind of money in payments to itself, that fact alone makes it desirable, and creates a demand which will enable it to float, in limited quantities, without depreciation. Let the Government refuse to accept it for customs duties, or for any other payment to itself, and it becomes less desirable. Again, let the Government actually accept one kind of money, but refuse to accept another, and the one kind becomes more desirable than the other. In such a case, it is incorrect to say that all kinds of money are equally desirable. Less of the kind discriminated against could be circulated without depreciation than would be possible if there were no discrimination.

Another element in the desirability of money is the fact that it is legal tender for the payment of all debts, private as well as public. That fact makes it desirable to debtors, and their desire would create a certain demand for it and enable a limited quantity to circulate without depreciation. Take away this element of desirability from money in general, or from a given kind of money, and it becomes a little less desirable. Make one kind of money full legal tender but not another, and the former becomes more desirable than the latter.

Another large element in the desirability of money, probably a resultant of the other two, exists when custom has made it acceptable in the purchase of all commodities and services from private individuals. It is too frequently assumed that this is the sole element in the desirability of money. The fact that the Government agrees to accept it, and does not discriminate against one kind, together with the fact that creditors must accept it, are elements of almost equal importance. In fact, without these two elements it is not certain that the custom of receiving money, or any given kind of money, especially irredeemable paper, in the purchase of commodities and services would ever become general.

This suggests an interesting subject for research. Let some investigator make a study of the known and verifiable cases of paper money of the following description. First, it is not redeemable or convertible into metallic money. Secondly, it is not accepted by the Government which issued it in payments to itself. Thirdly, it is not legal tender. Fourthly, it circulates generally and is generally accepted by private sellers in payment for goods

and services. Such a study might yield significant even if negative results. The paucity of such cases would at least suggest the thesis that the fourth of the above-named conditions depends upon one or more of the first three. In other words, the desirability of paper money as a general medium of exchange depends upon another form of desirability which has to be created by positive action on the part of the Government or the authority which issued it. Such positive action may consist in the promise to exchange gold or silver for it, in the promise to accept it in payments to itself, or in a legal tender law requiring creditors to accept it.

This brings out an important difference between paper currency and that which is sometimes miscalled "bank money," but which should be called bank credit or, better still, bank cheques. This so-called "bank money" is not accepted freely from every one in payments to the Government, it is not legal tender for the payment of debts, and it has not yet become customary to accept it without a personal guarantee or endorsement in the purchase of commodities. The sole element in the desirability of this so-called "bank money" is its convertibility, or, more accurately, the ability of the holder to get currency for it. The instant it loses its convertibility or its redeemability in currency it loses all or practically all of its desirability and becomes worthless even as a medium of exchange. The demand for commodities does not constitute a demand for this so-called money.

In this respect, "bank-money" may seem to bear the same relation to currency that gold-supported paper currency bears to gold. But this is only one point of similarity. In at least three other respects they are dissimilar. Paper currency has, as stated above, three other elements of desirability besides its redeemability. These are, to repeat, its acceptance by the Government, its legal tender quality, and the fact that it has become customary to accept it in full and final payment for commodities and services. Because of these three elements of desirability, paper currency, in considerable quantities, may continue to circulate, without serious depreciation, even after it has lost its redeemability. "Bank money," having none of these other elements of desirability, and being dependent solely on its redeemability, loses all its value and all its circulating power when it loses its redeemability.

This also explains a fact of common observation, which some of the more extreme members of the so-called "hard money"

school have never been able to explain. These extremists have insisted that, without redeemability in some kind of money having a metallic value, paper money must necessarily depreciate more and more. It might, they were willing to concede, circulate for a time through the sheer momentum of custom, but, without a metallic base, or without redeemability in some kind of money the value of which depended on something else than the fiat of Government, it must eventually decline. These extreme theorists overlooked the other elements in the desirability of paper money. When these other elements of desirability are present, our conclusion is that irredeemable paper money will circulate, *in limited quantities*, without serious depreciation.

Certain champions of paper currency accept this conclusion and then proceed to make too much of it. They are in the habit of saying that if the Government will not discriminate against irredeemable paper, it will have the same purchasing power as gold, provided the quantity of paper currency is not increased too far. In other words, if the Government will accept paper on a parity with gold in all payments to itself, which is quasi-redeemability, and if it will declare both paper and gold to be full legal tender for all debts, paper, it is claimed, will circulate on a parity with gold even without the element of redeemability.

This overlooks one of the most important elements in the desirability of paper money, namely, the ability to get gold for it. There are, or have been, two ways of getting gold for paper: one is to go on the market and buy it at the prevailing price as one would buy any other commodity, the other is to go to the Treasury or the Central Bank and get a fixed quantity of gold for each and every paper unit presented. The first of these two methods does not preserve any fixed ratio between the purchasing power of gold and that of paper money. The other, which is called redemption, does preserve such a ratio. Moreover, the latter method gives greater desirability to paper money than the former. It is more advantageous to the possessor of a paper dollar, pound, franc, mark, or lire to know that he can always get a fixed quantity of gold for it—say 25.8 grains, 9/10 fine, for a dollar, than to know that he can always go on the gold market and get an uncertain and unpredictable quantity for his paper unit.¹ To some people at least, a paper dollar redeemable in a fixed quantity of gold is more desirable than one not redeemable,

¹ Of course, the principle is the same no matter what the unit of value may be. For convenience, therefore, the writer will use the dollar, with which unit he is more familiar.

even though the latter will purchase some uncertain and variable quantity of gold on the market. While, therefore, considerable quantities of irredeemable paper can be circulated without depreciation, still larger quantities of redeemable paper could be so circulated.

The interchangeability of gold and paper is not the only kind of interchangeability. In the United States we have several different kinds of paper money, but it is the policy of the Government and the banks to keep them all at par with one another. In order to accomplish this, they are all interchangeable at the Treasury and at the banks. Because of this interchangeability, they are all virtually fused into one kind of paper money. The average man never notices nor cares to notice what kind of paper money is offered him so long as he is satisfied that it is not counterfeit. All kinds of paper money look alike to him. He probably does not even know the difference between one kind and another until it is explained to him. If they were not interchangeable, he would probably know the difference. At least he would have a motive for learning about the different kinds.

Because of this interchangeability, different kinds of paper money circulate at par with one another even though there are differences, which, to some, may seem important. The United States notes (greenbacks), for example, are technically not acceptable in payment of duties on imports. Even though they were actually rejected by the collectors of duties, they would probably circulate at par with other forms of currency so long as they were all interchangeable. If the offer of greenbacks should be rejected, the payer of an import duty could walk to another window and get some other kind of money in exchange for his greenbacks and pay his duty with the other kind. In short, interchangeability is so important in determining the relative desirability of different kinds of money as almost, if not completely, to neutralise all other differences. This applies to differences between gold and paper as well as to differences among the various kinds of paper. So long as paper is redeemable in gold, or so long as they are freely interchangeable, their parity becomes so much a matter of course that it is easy to forget the underlying cause of their parity. It is the fact of convertibility that makes one kind of money as desirable as any other.

It is no answer to say that no one wants gold so long as paper money will purchase everything that gold will purchase. The fact is that gold is desired, in smaller or larger quantities, for other purposes than the purchase of commodities. The fact

that those who want it for these other purposes can always get it at the Treasury, in definite and known quantities in exchange for paper, is an element in the desirability of paper. Even though gold be desired for those other purposes by very few persons, nevertheless these few, with their desire for gold, and their purchasing power, constitute a part of the total demand for paper money. Serve notice on them that the Government will no longer redeem paper with gold, and their desire for paper will be somewhat diminished. Those who merely want gold as a store of value are a part of the market, and their desire for gold is a part of the demand for paper money.

More important, of course, is the desire for money for use in international trade. Paper money, not being legal tender in foreign countries and not being accepted by foreign governments in payments to themselves, lacks two elements of desirability abroad which even irredeemable paper possesses at home. Foreign sellers have a weaker desire for our paper than our own sellers show. Since foreigners prefer gold to our paper, those engaged in foreign trade, or having payments to make abroad, are also likely to prefer gold to paper, dollar for dollar. For the same reason, they have a stronger desire for redeemable than for irredeemable paper. If they cannot get gold in definite and known quantities for paper, their desire for paper weakens. Their weakened desire reduces the total demand for irredeemable paper. In short, both foreign traders and those who desire a store of value show a weaker demand for irredeemable than for redeemable paper.

Moderate advocates of paper currency accept this as a fact, and propose a scheme under which gold in fixed quantities may always be had at the Treasury for purposes of international payments. With this limited redemption of paper in gold, it is hoped that paper money can be kept from depreciating by merely refraining from increasing the quantity of it. This is an admission that the ability to get gold for paper is an element in the desirability of, and therefore in the demand for, paper money. In other words, it is not altogether a question of supply. But this admission prepares the way for another.

In a time of uncertainty, such as the present, the desire for a store of value becomes rather strong. Until confidence in the Government is restored, paper money does not fully satisfy that desire. The Government, having repudiated its promise to pay gold for paper, has helped to destroy that confidence. The desire for paper money is perceptibly less, or the preference for

some other store of value is perceptibly stronger than it was before the repudiation

The question has come up in the United States whether reducing the gold content of the dollar will cheapen it and raise prices. By reducing the gold content of the dollar is meant giving fewer grains of gold for a dollar. Whether a fixed quantity of gold is given for paper dollars by the United States Treasury, under the old plan of redemption, or whether fixed quantities are sold for a dollar, under the proposed new Government-controlled gold market, should make no difference. The essential point is that the Government, through one agency or another, agrees to give a fixed quantity of gold for every paper dollar presented. The question at issue is, Will a reduction in the number of grains given for a dollar tend to cheapen it in terms of other commodities as well as gold, that is, will it raise prices?

Before seeking a final answer to that question, three preliminary questions may be raised. First, if decreasing the gold content of the dollar or any other unit by 50 per cent will not cheapen it and raise the general price level, will a decrease of 100 per cent in the gold content cheapen it and raise prices? Secondly, if decreasing the gold content of the unit 100 per cent will not cheapen it, of what use is the gold standard? Thirdly, is there any middle ground between two positions: first, that a decrease in the gold content of the dollar will raise commodity prices, and secondly, the position that the gold standard is of no use whatsoever, and we might as well continue indefinitely with our irredeemable paper money?

Most monetary theorists, at least those who believe in a gold standard, will agree that, without redeemability, paper money will depreciate to some degree. That seems to imply that paper money gets at least a part of its purchasing power from its redeemability in gold. It would scarcely be consistent with that conclusion to say that a smaller quantity of gold given for a paper dollar would give it the same purchasing power as a larger quantity. Yet that is virtually the position of those who deny that decreasing the gold content of the dollar will cheapen it.

The question becomes, therefore, Can as many irredeemable as redeemable paper units be circulated without depreciation? If so, keeping a gold reserve for the purpose of redeeming paper is a useless waste. If not, redeeming paper with less gold will make paper money cheaper than redeeming it with more gold.

Another idea, somewhat current at the present moment, is that paper supports gold as truly as gold supports paper. If

that means that the suspension of gold payments, or going off the gold standard, is as likely to result in a cheapening of gold as of paper, it can be easily tested. So long as gold and paper are freely convertible, they will, of course, have the same purchasing power. So long as that is true, there is no empirical demonstration that gold does not derive a part of its purchasing power from the fact that paper can always be had for it. The test comes when they are severed by the suspension of convertibility. If paper falls in purchasing power and gold does not, it would seem to demonstrate that gold had been supporting paper, and not that paper had been supporting gold. In short, it is about as absurd to say that paper supports the purchasing power of gold as to say that bank cheques support the purchasing power of the currency for which they are exchangeable.

In no other way can the present depreciation of the paper dollar be explained than on the ground that it derives a part of its desirability from its convertibility. There has been as yet (January 1934) no increase in the supply of paper money in the United States. The depreciation must be explained on the ground of a decrease in the demand for it. That decrease in the demand for it cannot be explained on the ground of a decrease in the number of commodities and services available for exchange. It must be explained on the ground of a decrease in the desire for paper money. That decrease in desire followed immediately after repudiation. In short, repudiation did not increase the supply of money, it reduced the demand for paper money by destroying one element in its desirability.¹

While it is freely admitted, in this paper, that *limited quantities* of irredeemable paper money may circulate without depreciation in terms of a price index of commodities, we have purposely laid emphasis on the words "limited quantities." If our reasoning is correct, a larger quantity of redeemable than of irredeemable paper can be circulated without depreciation. This is shown also by the fact that, after the United States repudiated its gold promises, its paper money began to depreciate without any increase in the quantity in circulation. If it had been desired to prevent depreciation, it would have been necessary to reduce the quantity of money in circulation. This suggests some possible difficulties when the time comes, if ever, when it is desired to

¹ It may be argued that paper prices in England did not rise after the Government repudiated its gold obligations. What happened, however, was a definite check in the downward tendency of prices which had been going on for some time. To check a downward tendency of prices, under any theory of economic causation, is the same as to start an upward tendency.

stop further depreciation. It may be necessary to impose on the country a shortage of money in order to counteract its decreasing desirability and to check depreciation.

The fact that paper money has other elements of desirability than its redeemability in gold helps to explain the lag in the rise in the price of commodities when the gold content of the dollar is decreased.¹ If the sole element in the desirability of a paper dollar were the ability of the holder to get gold for it, there would be no such lag. A paper dollar would, in that case, be very much like a bank cheque. Let a bank announce that all existing cheques would be redeemed, not at 100 per cent, but at 70 per cent of their former value, and the purchasing power of each outstanding cheque would instantly fall to 70 per cent of its former value. With a paper dollar, however, there are the three other elements of desirability discussed above. That being the case, its total desirability does not instantly decrease in exact proportion as the decrease in the quantity of gold which may be had for it. It will still be accepted by the Government on the old basis, it will still pay debts at the old rate, and the customary prices of many commodities will continue through sheer momentum.

In the purchase of foreign goods in foreign markets, the purchasing power of the monetary unit does fall rather promptly in proportion as the gold content is reduced. The reason seems to be that, in foreign countries, paper money occupies a position somewhat analogous to that of a bank cheque at home. That is to say, the foreign government does not accept it, it is not legal tender, and it does not possess the customary value it has in its home country. In other words, its principal if not its sole element of desirability is found in the ability of the possessor to get gold for it. Reducing the gold content, therefore, reduces its desirability promptly and proportionately in a foreign market.

It is the belief of the writer that this analysis of the demand for money, or some analysis, laying emphasis on the different elements in the desirability of money, the varying desirability of the same kind of money in different places, and the differences in the desirability of different kinds of money in the same place, is necessary to explain many points in monetary theory and history. This is well illustrated by the history of the greenbacks during the American Civil War. There was no great quantity

¹ Raising the paper price at which gold is bought and sold on the official, Government-controlled market is here considered as equivalent to decreasing the gold content of the dollar.

issued, and, more particularly, there was no great or sudden increase in that quantity after the suspension of specie payments during the war, yet they promptly depreciated. The only adequate explanation is that they lost one element of their desirability when they lost their redeemability. Another element of desirability was destroyed by the clause which declared that they were not legal tender for the payment of duties on imports.¹ Again, as Professor W C Mitchell has shown,² the depreciation of the greenbacks fluctuated according to the failure or success of the Union armies. There were no changes in the supply to explain these fluctuations. The only reasonable explanation is that greenbacks seemed more desirable when the Union armies were succeeding than when they were failing. The reason for that was probably that the prospect of their redemption seemed less remote when the Union cause was gaining than when it was losing.

Again, after the Resumption Act of 1875, which provided that the Government should begin paying specie for greenbacks on January 1, 1879, the purchasing power of the greenbacks steadily rose until they reached parity with gold on the morning of the day when specie payments were resumed. There was no decrease in the supply of paper money during this period to explain this rise in its value. It was wholly the result of an increase in its desirability. There was, for those six years, a steady fall of prices from the plateau of inflated paper prices to the low ground of gold prices.

As stated above, the present depreciation of the American paper dollar cannot be explained on the ground of any sudden increase in the supply after repudiation. One may go further, and safely predict that if the Government should definitely return to gold payments with the gold dollar of its former weight and fineness, the purchasing power of the paper dollar would rise promptly, even though there were no decrease in the quantity in circulation or in existence. Some increase in the purchasing power of the paper dollar would probably result even from a partial resumption of gold payments. Suppose, for example, that the Government would pay gold for paper at the old ratio in limited quantities and for certain specific purposes (even for such minor uses as dentistry), even this would make paper a little

¹ Neither were they legal tender for the payment of interest on the public debt, but this could hardly have affected their desirability from the standpoint of a private individual.

² *A History of the Greenbacks*, pp 203-205 University of Chicago Press, 1903

more desirable and would, theoretically, slightly though perhaps imperceptibly, increase its purchasing power

Let the Government agree to pay gold for paper at the old ratio for such an important purpose as international trade, and paper money would become considerably more desirable than it is now to those engaged in foreign trade. More could be circulated without any decrease in its supply, or it would take a corresponding increase in the quantity of money to hold prices at their present level. If there were not too much paper, such a policy of partial redemption might even bring paper back to its old parity with gold. But the point is, that this limited redemption would not make paper quite so desirable as it would be under full and unlimited redemption. As a result of this, not so large a quantity of paper money could be circulated without depreciation under limited as under full redemption.

This fact of full and unlimited redeemability is a factor of such great importance as to appear, at times, to be the only element of desirability. Under full redeemability, paper money will continue to circulate at par with gold, even though paper is neither legal tender nor accepted by the Government for all payments to itself. So long as the Government actually exchanges gold dollars for paper dollars without limit as to quantity or purpose, every paper dollar is essentially as desirable as any gold dollar. Under this policy, or so long as it can be carried out, no matter how many paper dollars are issued, they can never be any cheaper than gold dollars. There may be difficulty in keeping large enough gold reserves to redeem excessive issues of paper, but so long as the Government manages to do it, gold and paper must remain at parity no matter how large the issues of paper money.

Under these conditions, or so long as they can be maintained, the only possible way of cheapening money is to cheapen gold. Large issues of paper money may, under certain conditions, cheapen gold, and under other conditions they may make gold dearer and actually bring about a fall in prices.

Let us assume (a condition which was once real) that there is a great deal of gold in the country, some of it in actual circulation as coin, and, at any rate, vastly more than is needed as reserves for redeeming paper money. Under such conditions, an increase of paper money would displace a certain quantity of gold from circulation and release it for other uses and for circulation in other countries. This would tend to cheapen it, or to reduce its purchasing power. Further increases in the quantity of paper

money would continue to displace gold, reduce the mint demand for it, and make the displaced gold available to supply other demands, *up to a certain point*

When that point is reached, further issues alarm those who know the situation, start a scramble for gold, increase the demand for it, make it dearer, and cause a fall in prices. That point is reached when there is so little gold left in the country as to make it difficult to find enough with which to redeem paper and support the superstructure of credit. In order to get enough gold for those purposes, the Government itself must lead in the scramble for it and become the chief hoarder. Others, fearing that the Government may be forced to suspend gold payments, get panicky and join in the general scramble. When this point is reached, paper money ceases to be desirable as a store of value, while gold becomes supremely desirable for that purpose. Hence there is an increase in the total demand for gold. There is a run on the Government for its gold by the holders of paper. Fundamentally it is like a run on a bank by its depositors. The Government may eventually be forced to suspend gold payments, but until it is, gold and paper continue to circulate at parity, in spite of the facts that gold is getting dearer and that prices are falling. In these final stages, it can literally and truly be said that the later increases in the quantity of paper money actually cause a fall in prices.

When there is so much paper and so little gold in the country as to make it somewhat difficult to redeem paper in gold, it is fatuous and futile to try to stimulate prices by issuing still more paper money. Under such conditions, the way to raise prices would be to retire some of the paper money, to stimulate gold production, artificially if necessary, to put less gold in the dollar, which is partial repudiation, or to repudiate altogether by going off the gold standard.

Repudiation at once destroys the necessary parity of gold and paper and, unless there is a very limited supply of paper, it must somewhat cheapen the paper dollar. Since it was the excess of paper which forced repudiation, the quantity of paper cannot be assumed to be small. Therefore depreciation instantly follows repudiation. To repeat, repudiation removes a very important element in the desire for paper money. As soon as that element of desirability is removed, the demand for paper money decreases and its purchasing power falls. The increase in the quantity of paper money does not produce a fall in its purchasing power so long as that element of desirability called redeemability exists.

as a fact. As soon as that element disappears, the purchasing power of paper money falls without any further increase in its quantity.

The final conclusion of this paper is that students of monetary theory in general, and quantity theorists in particular, should hereafter give at least as much attention to the demand for as to the supply of money. This is especially important at the present time. The United States Government has suddenly launched on a new and untried experiment in monetary policy—that of a managed currency. If the reasoning in this article is sound, to control the supply of currency will not be enough. The demand for it must also be kept under control. This paper in no way combats the theory that the quantity of money is a factor in determining its purchasing power. It merely contends that there is another factor of equal importance—namely, the demand for money. It is contended, further, that the demand for money is the resultant of two factors: the desire for it and the possession of other things to be given in exchange for it. Finally, it is contended that the desire for paper money may be based on four desirable elements: first, its redeemability; secondly, its acceptance by the Government; thirdly, its being legal tender; and fourthly, a resultant of one or more of the first three, its customary acceptance by private sellers. When paper money possesses all four of these elements of desirability, there is a greater demand for it than when it possesses less than four. Consequently, a larger quantity of paper money possessing all four elements can be circulated without depreciation than would be possible if any of the four were lacking.

T. N. CARVER

ON THE RELATIONSHIP BETWEEN INVESTMENT AND OUTPUT

THE value of the stock of capital conceived as the discounted value of the expected future products, or conceived as the result of investing factors of production for definite periods, are, of course, essentially different ways of representing the same thing. Both methods of approach, if they are to prove useful for purposes of closer analysis, make inevitable a more detailed investigation of what I like to call the time structure of production, *i.e.* of the different periods for which either individual services have to be discounted or for which individual units of factors are being invested. I hope to show in the course of this article that neither of the two aspects without the other is sufficient to give a satisfactory explanation of the actual relationship. But the way in which the two aspects can be combined has never been made quite clear. Even the exact nature of the concepts which underlie the two different methods of approach has hardly ever been explicitly defined. I propose here to devote myself to an attempt to elucidate the relationship between the two concepts, and to develop some consequences which seem relevant to current controversies in this field.

The next three sections of this paper are accordingly devoted to the somewhat laborious task of explaining and co-ordinating the different aspects in which the time intervals arising in the process of production present themselves. Beginning in Section II with the representation of the time-shape of the labour stream applied in any one process, in the following section the relationship of this stream to the time-shape of the output stream derived from the labour invested at a moment of time is studied, and in Section IV the corresponding magnitudes are discussed for the case of durable goods. Only in Section V then an attempt is made to show what real phenomena correspond to changes in the different magnitudes discussed, to what extent they represent real independent variables or are only derived constructions, and how the state of equilibrium described with the help of these constructions is brought about in the actual world. Finally, in Section VI, the relevance of these equilibrium-considerations

for the explanation of a dynamic process is investigated and an attempt is made to show that, although it cannot be assumed that the existing capital goods are the result of a past process exactly similar to that in which current labour is invested, or that at any moment any capital goods are produced without the help of already existing capital, yet the existing stock of capital goods will always make the investment of labour for a definite range of periods necessary if the capital is to be maintained intact. It will appear that, contrary to a widely held opinion, the concept of a definite time-structure of investment is even more important for the understanding of the dynamic processes of the accumulation and consumption of capital than for the mere description of the conditions of a stationary equilibrium.

Any discussion of these problems within an article makes it inevitable to leave out a number of considerations which are highly relevant to a really satisfactory treatment of the main point. This applies in particular to the determination of a definite rate of interest, which is here taken for granted, its relation to saving, and the concept of free capital. I hope to discuss these systematically side by side with the problem selected here in a more comprehensive study. Yet in spite of these inevitable shortcomings of an anticipatory treatment of the special problem selected, it seems to me to be justified in view of the light it sheds on the relationship between what has come to be known as the "Marshallian" and the "Austrian" (*ie* Jevons—Bohm-Bawerk—Wicksell) approach to the theory of capital.^{1, 2}

It is necessary to begin by drawing a clear distinction between the two different ways in which time may be a condition to the production of the ultimate services to the consumer. This distinction between the actual time a process of production lasts and the time through which a product will give its services, to which corresponds the distinction between goods in process and

¹ Marshall himself was, of course, aware of the double aspect presented by capital, which he described as that of accumulation and discounting (cf. *Principles*, V, iv, 2, also mathematical notes v, xii, xiv, and xxiv). But it is probably true to say that he impressed the latter aspect so much more strongly on his disciples that it has become dominant among English economists. And the same applies, *mutatis mutandis*, to Bohm-Bawerk and his followers.

² Although little attempt is made to deal directly with objections raised recently against the "Austrian" approach to the theory of capital, much of what follows is an implicit reply to some of the most important recent contributions to the subject, such as F. Burchardt, "Die Schemata des stationären Kreislaufs bei Bohm-Bawerk und Marx," *Weltwirtschaftliches Archiv*, vols. 34 and 35, 1932-33, Frank H. Knight, "Capitalistic Production, Time and the Rate of Return," *Economic Essays in honour of Gustav Cassel*, London, 1933, and M. Hill, "The Period of Production and Industrial Fluctuations," *Economic Journal*, December 1933.

durable goods, is of special importance in this connection. For in each of these two cases only one of the two fundamental magnitudes to be discussed here can be considered as a directly given independent variable, while each can be derived from the other only if the rate of interest is given, and is therefore in a sense a mere construction. Under these circumstances it is not surprising that of the two schools mentioned above, that which thought of capital almost exclusively as of durable goods concentrated almost exclusively on the one of these magnitudes, the *output function* (although this concept has not been clearly formulated by it ¹), while the other school, which thought of capital primarily in terms of goods in process, made the other magnitude, the *investment function* (which is the more exact formulation of what they called the period of production), the starting-point of their attack. It seems to me, however, that in neither case will one alone of the two concepts provide a sufficient instrument of explanation, and that, in particular, the effects of changes in the data can be understood only if the relation between these two concepts is cleared up.

II

It is convenient to begin with the discussion of goods in process, and this and the following section of the present paper will be devoted entirely to this aspect of time in production. In order to distinguish its effects sharply from any effects due to the durability of goods and to avoid for the present all complications arising out of the fact that the phenomena are regularly combined, it is necessary to assume that in the process in question no durable goods are used, and to define as one process that series of activities which results in a product that is finished and consumed at one moment of time ².

Such a process of production can then be represented by Jevons' Investment Figure ³ shown in Fig 1 *a*. The time during which the process proceeds is here measured along the abscissa, while the quantities of "labour" applied in the course of the process up to any one moment are shown cumulatively as the ordinates of the curve OL_1' for the corresponding points of the T-axis. "Labour" stands here and throughout this article for an

¹ The only clear formulation of this concept known to me is to be found in a yet unpublished thesis of Mr V. Edelberg.

² This is essentially the assumption made in *Prices and Production*, where considerations of space made it impossible to show how durable goods could be included in the scheme. It is hoped that the present paper will to a certain extent make up for this deficiency.

³ This very appropriate designation has been suggested by Dr J. Marschak (*Archiv für Sozialwissenschaft*, vol 68, p 395).

assumed uniform original factor of production. Intermediate and final products are represented in such units as are the product of a unit of such "labour," so that each ordinate of the curve OL_1' measures the quantity of intermediate product at the respective stage of production, while the final output, obtained at the end of the period OT_1 , is equal to T_1L_1' , or the total quantity of labour applied in the course of the process. The slope of the curve OL_1' at any one point represents the rate at which labour is applied at the corresponding moment. The diagram in short, shows the distribution in time of the total quantity of labour that contributes to the output of a moment of time.

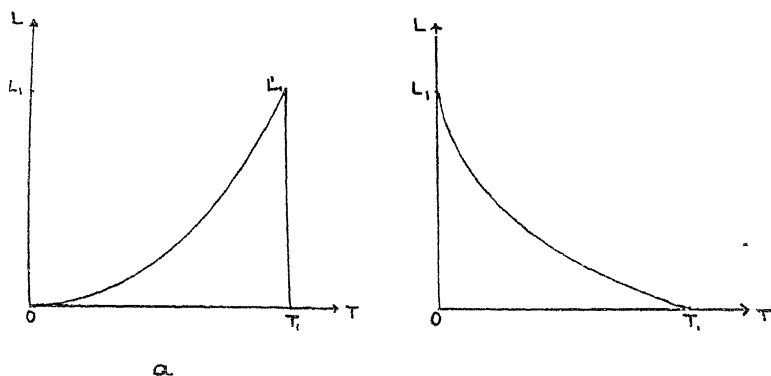


FIG. 1

If we assume a completely stationary structure of production (*i.e.* if we assume that at every successive moment processes of exactly the same kind are started), we obtain a representation of the different periods for which at any one moment the different units of the total "labour" supply employed in that industry are invested, by simply inverting the first figure, as in Fig. 1 *b*. The difference between the two figures is that in the first case the product T_1L_1' maturing at the moment T_1 is connected with the preceding investment during a period of time of the quantities of "labour" which have contributed to that product, while in the second case the total quantity of "labour" invested in the industry at one moment of time is connected with the stream of output over a period of time which is due to that investment.¹

¹ In both cases, however, the periods in question are *future* periods of time. In the first case the period OT_1 refers to those future moments of time at which the corresponding quantities of "labour" have to be invested in order to obtain the product at the end of this period, while in the second case it refers to the period during which the product of the labour invested at its beginning, say the present, will mature.

In either of these two forms this curve, which describes the quantities of "labour" invested at successive moments of one process, or the periods for which individual quantities of the total of "labour" employed in the process are invested, represents what I call the investment function ($f(t)$)¹ As will appear later, this two-dimensional method of representing the range of different periods for which the individual units of "labour" are invested is the only adequate representation of what is usually called the period of production or of investment, and cannot usefully be replaced—except by way of a provisional simplification in an early stage of the analysis—by any one-dimensional magnitude such as the "average period of production"

In the preceding diagram the height of the curvilinear triangle measures the quantity of output at a moment of time, and its area (on the assumption of a completely "synchronised," stationary process) the quantity of intermediate products, both *in terms of "labour"* The changes in the quantity of consumers' goods produced which will be the consequence of changes in the investment structure (*i.e.* changes in the shape of the investment function²) cannot possibly be represented in the diagram, since from the assumption the total output will (under stationary conditions) always be equal to the total quantity of original factors invested It should, perhaps, be specially emphasised at this point that the investment function under discussion here as well as the output function to be discussed later are entirely different from the familiar production functions which describe the dependence of the quantity of output on changes in the method of production The types of functions used here serve merely to *describe* one single process of this sort and cannot by themselves be used to show the effects of changes in the method of production If this were intended, the quantity of consumers' goods produced by investing a given quantity of "labour" for different ranges of periods would have to be regarded as a functional of the investment function (*i.e.* as $\phi(f(t))$ where the form of the function $f(t)$ is an independent variable) But changes of this magnitude are in a different dimension from those

¹ Strictly interpreted, $f(t)$ is to be taken to correspond to the "inverted" representation of the process (Fig 1 b), while the actual rate at which "labour" is supplied throughout any one process ought to be represented by $f(T_1 - t)$

² In what follows I shall use the terms investment function, investment curve, investment figure and investment structure interchangeably Occasionally I shall even speak of lengthening or shortening the investment structure as a short way of describing such changes in the shape of the function as involve positive or negative saving

shown in the first diagram and cannot be represented in it except by introducing a third dimension

But before we proceed to do this, the limitations of the method of representation so far employed must be pointed out in somewhat greater detail. The diagrams in Fig 1 show how long we have to wait for the product of the different units of "labour" invested, and, consequently, how long we have to wait for such parts of the product as are to be attributed to individual units of "labour". But it would only be possible to deduce from this how long we have to wait for the different units of consumers' goods if we could assume that equal shares of the total "labour" invested in the course of the process will produce the same quantities of consumers' goods. But there is no reason why we should assume this to be so. Indeed, on the contrary, we know that it cannot be so, since equal quantities of "labour," invested for different periods, must at any given rate of interest necessarily grow into different quantities of products.

But if this is so, if the product of equal quantities of "labour," invested for different periods in the course of any one process, does not consist of equal but of different quantities of consumers' goods, then the investment function which describes how long we have to wait for the product of the different units of "labour" does not directly show us how long we have to wait for the different units of the output.¹ The curve in Fig 1 *b* in particular, although it shows what part of the quantity of labour invested at the moment *O* matures during any part of the period OT_1 , does not show immediately what quantities of consumers' goods correspond to the former. It is for this reason that it is described as an investment function which is to be clearly distinguished from the output function, which describes the latter phenomenon.

What applies to the final product also applies to the quantity of intermediate products. Without going into this problem at any length, it may be pointed out here that although the area of the investment figure represents the quantity of intermediate products in physical terms (*i.e.* in terms of the quantities of original factors that have gone to produce it), it does not unequivocally determine its quantity in terms of value, either relatively to the value of the factors or relatively to the value of the output.²

¹ Misunderstandings on this point, that the traditional concept of the period of production refers to units of factors and not to units of the products, are responsible for many of the objections to the proposition that an increase of capital always means an increase of the period of production.

² Without reference to a given rate of interest, the relative area of two investment figures will not even determine in some cases which corresponds to the greater

This magnitude again becomes only determinate when with the introduction of interest we are put in a position to use value as the common denominator to which to reduce the otherwise not comparable physical magnitudes

III

All these apparently rather complicated relationships can be represented in a fairly simple way if we add to the former diagram, which showed only physical quantities, a third dimension, representing the relative value of these quantities. For this purpose we place the figure so far discussed in the horizontal plane of a three-dimensional system of co-ordinates and measure the values attaching to these quantities along the third (perpendicular) V -axis. It is assumed that the available quantity of "labour," the rate of interest and the value of either a unit of "labour" or a unit of consumers' goods (or, alternatively, the value of both, but not the rate of interest) is given. For the present it is further assumed that one of the many alternatively possible investment functions has been decided upon and that in consequence the quantity of consumers' goods produced is also determined¹. The problem, then, is what quantity of consumers' goods is to be attributed to individual units of "labour". The answer is contained in the diagrammatic description of equilibrium given by Fig. 2

In order to simplify the resulting figure at first as much as possible it has been assumed that the investment function is linear. This is expressed by the fact that the hypotenuse OL_1 of the rectangular triangle OL_1T_1 which corresponds to the curve OL_1 in Fig. 1 *a* is a straight line, it means that during the interval of time OT_1 "labour" is invested in that process at a constant rate. Since equal quantities of "labour" must necessarily have the same value, the magnitude of V along any point of OT_1 is necessarily the same, namely equal to OT_0 . The value of the total quantity of "labour" invested during the course of the process would be shown by a rectangle with T_1L_1 , representing the number of units of "labour," as a base, and OT_0 , representing the value of a unit of "labour," as its height. But as it is

quantity of capital in value terms. *E.g.* of two investment figures which have a similar area but of which one is longer with a more, and the other shorter with a less, convex investment curve, at one rate of interest the one and at another the other may correspond to the greater quantity of capital.

¹ The way in which the choice of the investment function will in turn be influenced by the rate of interest and the "productivity function" of the particular line of production (*i.e.* by the function $\phi(f(t))$) will be discussed in Section V of this paper.

As will be evident from the diagram, the shares of the total product that are to be attributed to the individual units of "labour" invested for different periods of time depend on the rate of interest. A rise of that rate, *e g* to the figure indicated by the dotted curves, would have the consequence that relatively larger shares have to be imputed to the units of "labour" invested for longer periods, while smaller shares would have to be attributed to the units of "labour" invested for shorter periods. At the same time the relative value of "labour" and of the product would have to change. If, as has been assumed in the diagram, the value of the product remains constant, the value of "labour" would have to be reduced,

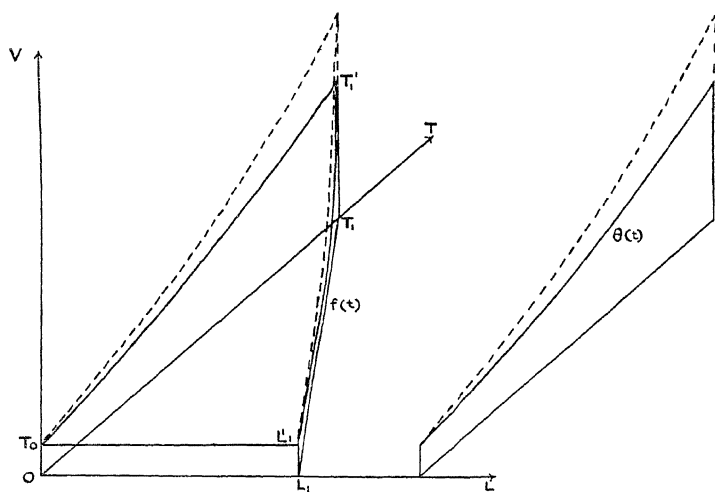


FIG 3

while the case where the value of "labour" remained constant would imply a corresponding rise in the value of the product. This situation would be represented in the diagram if the surface indicated by the dotted lines would be lifted by such an amount that the dotted line parallel to $T_0 L_1'$ would coincide with that line.

This diagram can easily be adapted to correspond to Fig 1 b instead of Fig 1 a, *i e* so as to represent the relationship between the total quantity of "labour" invested at one moment of time in different stages of similar processes, and the output stream derived from it. This form of representation, shown in Fig 3, has the special advantage of enabling us to derive in a simple way the output function, which will be the starting-point for the discussion in the next section.

In this diagram OL_1 represents the number of units of "labour" invested at the moment O in different stages of the processes going on simultaneously in the industry, and OT_0 the value of a unit of "labour". The unit of "labour" shown at the beginning of the L -axis (*i.e.* nearest to the origin) is being invested in a process which is just being started and its product will accordingly mature only after the lapse of the maximum investment period, *i.e.* at T_1 . Units of "labour" shown further on the right of the L -axis are invested in more advanced stages of similar processes and their product will mature at less distant moments, represented by the position of the corresponding points of the line L_1T_1 along the T -axis. This line again corresponds to the curve L_1T_1 in Fig. 1 *b* and represents, therefore, the investment function $f(t)$. But as the value of the product of the different units of "labour" which is shown to mature along this line will have grown at the same compound rate of interest for periods of increasing length, it will be greater as we get nearer to T_1 . This increase of the V -co-ordinates corresponding to the products of the different units of "labour" maturing along L_1T_1 is shown by the upward slope of the curve $L_1'T_1'$ above it. It must be remembered here that since all the different units of labour are supposed to be employed in the same kind of process, and therefore to yield the same kind of product, the different value of the product due to the different quantities of "labour" must be due to proportional differences in the quantity of these products. But these different quantities of the product which will result at different moments of time from the "labour" invested at one moment of time represent the magnitude which we have described as the output function.

This magnitude is implicitly given by the shape of the vertical plane $L_1L_1'T_1T_1'$, and depends, therefore, in the same way as this surface on the rate of interest. The area of this plane corresponding to any interval along the T -axis is proportional to the magnitude of the output stream during the respective interval of time. As can easily be seen from the diagram, this area would vary not only in consequence of a change in the height of the curve $L_1'T_1'$, but also in consequence of any change in the direction of the investment curve L_1T_1 which forms its base. The rate of the flow of output at any moment of time will therefore correspond to the first derivative of the investment function $f(t)$ with respect to time, multiplied by the corresponding value of the interest function, *i.e.* the height of the interest surface $T_0T_1'L_1'$. The resulting function, which describes the rate of flow of the output

stream at any moment between O and T_1 , is the output function, represented in the diagram by the separate strip marked $\theta(t)$.¹ For the present the essential point is, that this output function can be derived from the investment function only on the assumption of a given rate of interest, and that, as is shown by the part of the diagram drawn in dotted lines, it will change its shape with every change in the rate of interest.

This section may be concluded with a short reference to the meaning of the volume of the three-dimensional body which appears in the last two diagrams. It represents the quantity of capital in value terms under stationary conditions. It shows clearly the reason why only it and not the simple investment figure which forms its base gives an unambiguous expression of this magnitude, because the reinvestment of interest accrued up to any moment of time has to be counted as part of the total investment. It is for this reason, too, that it is impossible to substitute any one-dimensional magnitude like the "average period of production" for the concept of the investment function. For there is no one single average period for which a quantity of factors could be invested with the result that the quantity of capital so created would be the same as if the same quantity of factors had been invested for the range of periods described by a given investment function, whatever the rate of interest. The mean value of these different investment periods which would satisfy this condition would have to be different for every rate of interest.²

¹ This strip is to be compared with the other parts of the figure only as regards its shape, but not as regards its absolute height, since it has necessarily to be drawn on a different scale. Its height should become equal to that of the body only where the investment curve becomes parallel to the T axis. The similarity of the shape of the output function to that of the interest curve in the diagram is due to the fact that the investment function has been assumed to be linear. If this were not so, the output function might assume any other form. The relationship between the shape of the two curves (or the corresponding functions) will be discussed in somewhat greater detail in the next section of this article.

These relationships lend themselves easily to mathematical treatment, but it is not intended to burden the present article with it. Only a short re-statement of the main relationship discussed in the text may be added here. If $f(t)$ be the investment function, $\theta(t)$ the output function, $v = OT_0$ the value dimension of "labour" and ρ the rate of interest per annum computed continuously (Wicksell's *Verzinsungsenergie*), and therefore $ve^{\rho t}$ what in the text has been called the interest function, then $\theta(t) = f'(t)ve^{\rho t}$.

² It should be noted that the volume of the body, and therefore the quantity of capital in value terms, will be a finite magnitude even if the investment curve approaches the T axis only asymptotically. But this is not so important a case as has sometimes been believed, since only expected returns count—or since only economic and not physical duration is relevant. Even a good which is expected to last for ever, like a railway tunnel, will hardly ever be expected to remain permanently useful.

IV

We turn now to the case of durable goods. Here the situation is in many respects the exact reverse of that discussed in the previous section. In the ideal case, where a durable good is created by investing a given quantity of "labour" at a moment of time, and where that good then produces without any further aid from labour a continuous stream of services over a period of time, the primary datum is apparently not of the nature of an investment function but a kind of output function. The given variable is the shape of a flow of services over a period of time. We know how long we have to wait for any unit of these services,

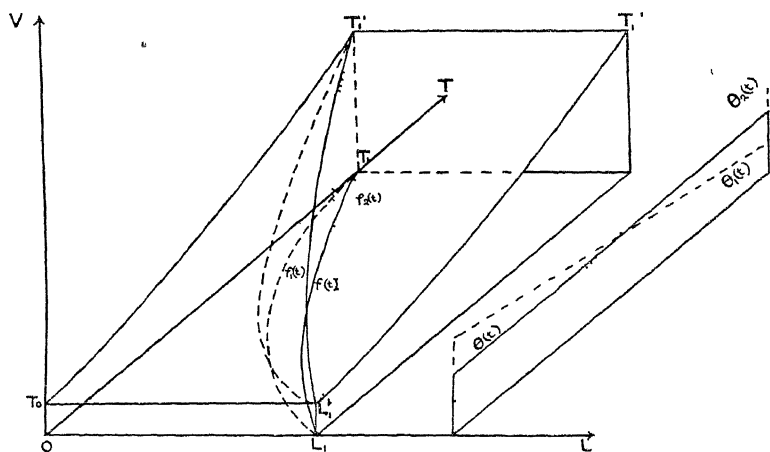


FIG 4

but we do not know directly how long we have to wait for the product of the different units of "labour" invested. In order to decide this we should have to know what quantities of the final services have to be attributed to the individual units of "labour". And this can be done only on the basis of a given rate of interest. The relationship can again be described by means of a diagrammatic apparatus similar to that employed in the preceding section.

In Fig 4 the meaning of the three co-ordinates is the same as in Figs 2 and 3. The initial data, however, from which we have to start are, (1) the quantity of "labour" invested at zero hour and possessing a definite value, so that the total value of this "labour" can be represented by the rectangle $OT_0L_1'L_1$, (2) the shape of the expected stream of services, represented by the strip marked $\theta(t)$, and (3) a definite rate of interest at which the value

of the "labour" invested at O will increase in time, represented in the diagram by the upward sloping interest surface $T_0T_1'T_1''L_1'$

Any vertical cross-section connecting the interest surface with the base plane TOL along any line connecting T_1L_1 will represent an output stream which satisfies the condition that the discounted value of the product of each unit of labour invested will be the same. It has, however, to satisfy the further condition that it corresponds to the given time-shape of the output stream, or, if we apply the results of the preceding section, its area within any interval of the T -axis has to correspond to the magnitude of the given output stream within the same interval. The problem, therefore, is to find such a curve in the base plane that the area below the interest surface of a vertical surface erected upon it, differentiated with respect to time, will be equal to that of the output function. This, clearly, is a problem of integration which in the particular case can be solved on the basis of the inverse operation carried out in the preceding section.¹

It will, however, be sufficient for the present purpose to illustrate by a few examples the relationship between the output function and the investment function in the case of durable goods without going further into the mathematics of the problem. We shall do this by first assuming that the rate of interest is fixed but the shape of the output stream changes, and then by assuming that the rate of interest changes while the output function remains constant.

So far we have only seen (Fig. 3) that if the investment function is to be linear the output function would have to be of a peculiar and rather improbable shape. We shall now start from the more probable assumption that the durable good in question produces during its existence a constant stream of services. What will, on the assumption of a given rate of interest as that represented by the interest surface in Fig. 4, be the shape of the investment function corresponding to such a constant output stream (shown by the line $\theta(t)$ in the diagram)?² In geometrical terms this question is equivalent to asking what perpendicular surface, enclosed between the base plane and the interest surface, will have within any interval of the T -axis an area proportional to that of the corresponding part of the given output stream. As the height of this surface will increase with the progress of time, the effect of this increase in height

$$^1 f(t) = \int_0^T \frac{\theta(t)}{ve^{pt}} dt = \frac{1}{v} \int_0^T \theta(t)e^{-pt} dt$$

on its area will have to be compensated by a change in another dimension. And the only other change which can have this effect is a change in the inclination of this surface towards the T-axis. The area of such a surface within any given interval will evidently be greater the greater its inclination towards the T-axis, reaching a maximum where it is inclined towards it at 90 degrees, and a minimum where it is parallel to it. It will, therefore, be possible to compensate for an increase in height by decreasing the inclination towards the T-axis, with the effect that the area

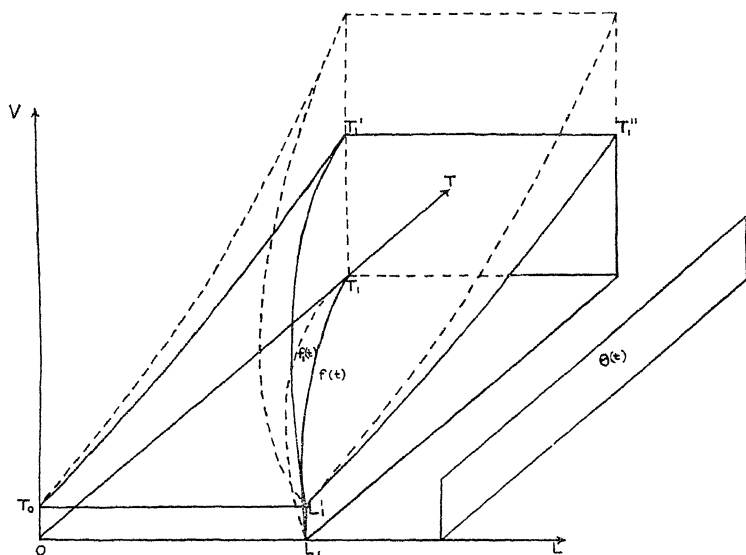


FIG 5

of the surface remains the same for any interval of the T-axis. Or, in other words, the answer to our question is that the investment curve (the line along which the surface cuts the base plane) will have to be convex towards the T and L axes and will have to increase its curvature as it approaches T_1 .

This investment curve, corresponding to the constant output stream $\theta(t)$, is shown in Fig 4 by the fully-drawn curve marked $f(t)$. It will now probably be evident without further demonstration that if the output stream were not constant but would decrease in time as that marked $\theta_1(t)$ in the diagram, the corresponding investment curve would have to be even more convex towards the origin ($f_1(t)$), while an output function which increased at an arithmetical rate as that marked $\theta_2(t)$ would have

the effect of making the investment function less convex or even, in such parts where it increased faster than the interest curve, concave towards the origin ($f_2(t)$)

It remains now to show the effect of a change of the rate of interest on the shape of the investment function derived from a given output function. This effect is shown, for the case of a constant output stream, in Fig. 5. The fully drawn investment curve marked $f(t)$ corresponds here to the lower rate of interest represented by the surface $T_0T_1'T_1''L_1'$, while the investment curve marked $f_1(t)$ corresponds to the higher rate of interest shown by the second interest surface drawn in dotted lines. In words it means simply that the investment curve will become more convex as the rate of interest rises, and vice versa.

V

What is the economic meaning of the fact that in the first of the two cases discussed the investment function and in the second the output function is the independent variable, while in each case the other one of the two magnitudes is only a derived magnitude, a construction? We can only attempt a very partial answer to this question here, since its complete discussion would raise all the problems connected with the question of how the direction of current investment is determined.

It has occasionally been objected that the investment period, or period of production, is a magnitude which cannot possibly be known to, or play any rôle in the calculations of, the entrepreneur. If this were true this contention would, of course, equally militate against a concept of capital as the discounted value of expected future services as against a definition of capital in terms of (ranges of) investment periods. But surely it cannot be seriously argued that investments are made without some definite anticipation not only of the value of the services expected from them, but also of the time when they will mature. That these expectations will in most cases not be based on certainty but only on a certain chance introduces an element of uncertainty. But it does not alter the fundamental fact that the time when the product is expected to mature is as much a datum for the decision of the entrepreneur as its expected value.

A more serious problem, however, and a problem that cannot be answered generally, is whether this is not only true as regards the total investment in any one process or any one durable good, but also of any single unit of factors invested in such goods or

process Here the answer in every concrete case depends, in a way familiar from the marginal productivity analysis, on whether it is possible to isolate the physical marginal product of every unit of factors or whether we can only speak of a marginal product in terms of value This depends, as is well known, upon whether the proportions in which the different factors can be used in any single line of production are variable, or whether only the quantities produced in the different industries, where different but fixed proportions prevail, can be changed

The case of variable proportions in any one line of production is exemplified in this instance by the possibility of investing parts of the total quantity of "labour" used in any one process for a longer or shorter period If again we take first the case of goods in process, it will clearly in most cases be possible to change within limits the quantities of "labour" employed in the different "stages" of the process and to compare the additions to the product obtained by employing a given quantity of "labour" in an earlier or later stage of the process And the condition of equilibrium will evidently be, not that this "marginal product"¹ will be the same for all the units of "labour" employed in different stages, but that its value, discounted over the period for which the respective units of "labour" are invested, will be the same

Any change in the rate of interest will in consequence change the relative value to be attributed to units of "labour" in the different stages, and, wherever this is possible, give rise to shifts of factors of production between stages A fall in the rate of interest, *e g* will have the effect of increasing the value of the factors in the earlier stages relatively to that in the later stages and create a tendency towards a movement of factors to the earlier stages, until the value of the physical "marginal product" of every unit of "labour" is again equal to the value of that unit *plus* interest for the period for which it has been invested

But such a physical "marginal product" can be isolated only where the position of individual units of "labour" in the process

¹ This is, of course, not a marginal product in the usual sense of the product of the marginal unit of "labour" employed in the process, but in the special sense in which the term has been used in this connection by Professor Taussig, *i e* it is the product of the marginal unit of "labour" employed at any particular stage of production and therefore invested for a definite period of time Units of labour invested at different stages co-operate with different quantities of capital and the process of discounting is a method of finding their true marginal product by making allowance for the share of the different quantities of capital with which they co-operate, cf F W Taussig, "Outlines of a Theory of Wages," *American Economic Association Quarterly*, Third Series, Vol XI, 1910

can be changed while everything else is left the same. And although small changes of this sort will generally be possible, they are by no means possible without limits. Between the one extreme, where any form of investment curve can be changed into any other form by a continuous series of small changes of this sort, involving only the shifts of very small units of "labour," to the other extreme of a few alternative investment curves of altogether different shape, where for technical reasons no small changes are possible, and where a change from the one to the other can only be made by altering the investment period for almost every single unit of "labour," there is an infinite series of intermediate cases, which are more likely to occur in real life than either of the two extremes.

In these cases where only more or less considerable quantities of "labour" which have been invested for different periods can be shifted *en bloc*, it is not possible to single out the physical product of a unit of "labour." The principle on which alone it will here be possible to attribute definite quantities of the product to the different units of "labour" is that the aggregate product of the total labour is so distributed between the individual units, that by discounting the product attributed to every unit, at the rate of interest ruling everywhere else in the system, the value of every unit of "labour" becomes the same. And the further adjustment of the value of the units of "labour" to the level prevailing in the rest of the system will have to be made by increasing or decreasing the quantity of output of the line of production concerned and so influencing the value of the product that is to be discounted.

This, of course, is the familiar principle of imputation of a marginal value product, based on the consideration that if two or more factors are combined in different lines of production in different but fixed proportions, the relative quantities of the product will have to be so adjusted that, by giving the same value to any one unit of the same factor, in all lines of production, we can distribute the total value of the product between the factors. The main application of this to our particular problem is best shown in the extreme case where the investment function is rigidly fixed in all lines of industry—a fall in the rate of interest or an increase in the supply of free capital here will lead to an increase of output in the industries with a longer structure of production (with more capital per head) at the expense of those with a shorter structure of production, and in this way increase the proportion of "labour" that is invested for relatively long periods, thus

changing the investment function for industry in general without changing it for any one industry

In the case where the investment function is variable by small amounts and where, therefore, it is possible to connect definite amounts of the product with any unit of factors there will always be one and only one output function corresponding to any one investment function, and any change in the rate of interest will lead to changes in both these functions. Where, however, these two functions are not co-ordinated by physical productivity in this unambiguous way, a change in the rate of interest will affect the relationship between the two functions and bring about changes either of the one or the other in different ways

Now, this case where the shape of the investment function is more or less fixed and every change of the rate of interest simply leads to a change of the relative importance of the parts of the total invested for longer or shorter periods (*i.e.* to a change of the output function) is not very different from the case where the output function is given and the investment function derived from it, *i.e.* the case of durable goods

In this case it has long been recognised that it is not normally possible to trace a physical connection between every unit of factors invested and the services of the goods due to it, and that therefore the investment period, or investment function, cannot be considered as a technical datum¹. Only for the marginal units of factors invested in goods of variable durability, *i.e.* for the units that have caused definite extensions of its life, can such a technical connection be established. But this becomes impossible where either the physical durability of the good cannot be varied or where—a very frequent case in real life—its physical duration has for technical reasons to be made greater than its economic usefulness will last (obsolescence). It is therefore in many ways most instructive to discuss the extreme case of a durable good of absolutely fixed duration.

The principle on which for any rate of interest an apparently purely fictitious investment curve can be derived from the output curve has been shown in the preceding section. But is this investment curve purely fictitious? Already the discussion of the effects of changes in the rate of interest have shown that it has some real importance. A lowering of the rate of interest, *e.g.*, which will make the investment curve less curved, means that a greater part of the more distant services of the goods will be

¹ Cf. K. Wicksell, "Realkapital och kapitalranta," *Ekonomisk Tidskrift*, vol. 25, 1923

attributed to "labour" (because less will be deducted for interest) or that a smaller part of the future stream of services will be sufficient to attract a unit of "labour" to the production of such goods. More goods (or, where possible, more durable goods) of the kind will be produced simply because the more distant part of the expected services will play a greater rôle in the considerations of the entrepreneur and will lead him to invest more on account of these more distant returns. Even a description of the equilibrium between costs and prices is hardly conceivable without a use of the relationships described by the investment function.

But the main importance of the concept of the investment function becomes apparent only when we direct attention to the more dynamic aspects of the question. From what has been said so far it will probably have become sufficiently clear that every rate of interest will direct investment in a definite direction, a lower rate so as to involve a greater total quantity of capital (a "longer" investment structure) and a higher rate so as to involve a smaller quantity of capital. It is, of course, the well-known "function" of interest to limit production to the most profitable methods for which the available quantity of capital is just sufficient. But what exactly this "given quantity of capital" means, and what will be the effects of methods of production that are not in accord with it, this, it seems to me, can only be explained by means of this concept of the investment function.

Under stationary conditions, *i. e.* when the investment function remains constant and all the current income is spent on current output of consumers' goods, their prices and the prices of intermediate products will just cover cost of production. Any lengthening or shortening of the investment structure, however, will necessarily have the effect of temporarily, during the transition period, reducing or increasing output relatively to the level at which it could be permanently maintained. If the investment structure is being lengthened, the output of consumers' goods will for a time be reduced to an amount which has cost less than the total income of all factors of production (including capital), while when it is shortened, an amount which has cost more than this will come on the market. If these changes are the consequence of corresponding changes of expenditure on consumers' goods below or above net income, prices will still correspond to costs. But if they are the consequence of a deflection of the rate of interest from the equilibrium position, output will be either smaller or greater than demand and the consequent disequilibrium between prices and cost will have the tendency to restore

the conditions of equilibrium which the rate of interest has failed to maintain

These effects, of course, can merely be hinted at in the course of this discussion. But it must be clear, that in this connection the attribution of definite parts of the output stream to such units of factors as are to be considered as its costs is of the greatest importance. It is for the analysis of this process in time and of the effects of changes in the direction of investment on the cost of current output relatively to current expenditure, that the concept of the investment function becomes of real importance. That this is so is not surprising if we remember that what it does is essentially to show how the effects of present activity will be distributed in time, to point to the particular future moments when the results are expected to realise which have led to present investment.

VI

The contention that the chief value of the "period of production" approach lies in the help it renders in the analysis of dynamic phenomena may be a little unexpected, since it has frequently been suggested that while it may be applicable to stationary conditions, it loses all its meaning when applied to problems of economic dynamics. This very widespread impression is due to the fact that the concept of the period of production has generally been interpreted in an historical, backward-looking sense. For this Bohm-Bawerk's manner of exposition is mainly responsible. But, as has been pointed out at the beginning of this article, the essential concept is not that of the length of the process from which current output results, but the range of periods for which the current supply of factors is being invested.

It is true, however, that certain conclusions frequently drawn from the idea of a period of production imply such an historical interpretation. This is particularly true of what might, using a term of J. B. Clark, be called the "synchronisation" proposition, if this is interpreted literally. This proposition states (what is essentially a truism) that under perfectly stationary conditions the stock of intermediate products existing at any one moment of time will exactly correspond to all the different stages through which the "labour" invested at the same moment will have to pass before it matures into consumers' goods. It was on the basis of this proposition that the diagrams used in the first two sections of this paper, which in the first instance were intended to describe a process in time, were also interpreted as a representation

of the stock of capital existing at any one moment. Although this must be true under perfectly stationary conditions, it is just because the concept of stationary conditions implies this that nothing in real life will ever correspond to it, not only because the external data never remain constant, but for the simple reason that the data determining the methods of production are not only "external" data, but include always also results of preceding economic activity. Stationary conditions in this sense could only exist if the productive equipment existing at the beginning of any one period were the same as that existing at the end of that period, *i.e.* if stationary conditions had already existed, or if at any one moment all capital had been available in a free form (a real "subsistence fund" consisting of consumers' goods) and had then been invested in view of conditions which have not changed since. But once unforeseen changes occur after capital has been invested in a definite form, all further investment will be influenced by the historical accident of the existence of certain capital goods, and the movement towards a state of equilibrium will at best be an asymptotic movement.¹

It is for this reason that the backward-looking interpretation of the "period of production" will always lead to absurd conclusions. A real identity in a physical sense between the stock of intermediate products existing at any one moment and the intermediate products that are being reproduced by the current investment of original factors will never exist. Or, to express the same idea in more familiar terms, it can never be expected that the value of the existing real capital will correspond to its actual cost of production. But all this does not disprove the only essential contention, namely, that the value of the existing capital goods will stand in a definite relationship to the way in which the current factors are being invested. Before dealing with this last problem, it is necessary to say a few words on the way in which unforeseen changes will affect the value of existing capital goods.

This problem would be comparatively simple if all intermediate products were completely specific, *i.e.* if they could not possibly be used for any other purposes or in any other way than was intended when they were made. It is the assumption that such is the case which underlies and justifies most of the over-simplified

¹ "In the order of history labour precedes capital from land and labour everything proceeds. But in the actual order of things, there is always some capital already produced, which is united with land and labour in the production of new values"—J. Bentham, *Works*, Vol. III, p. 34

statements on the relationship between the existing stock of capital and current investment. If it were true,¹ the only choice for the entrepreneur in the event of any unexpected change would be between going on as originally intended or abandoning the existing intermediate products entirely. But they could in no way become part of the new processes started after the change has taken place.

Such complete specificity of the intermediate products, however, never exists, and in fact in a great many cases the range of possible uses for any individual capital good is very wide indeed. The effect of this is that any unexpected change will lead to some of the existing intermediate products being used for purposes not originally contemplated and to which they are not perfectly adapted, but for which, once they are in existence, they can now be used with greater advantage than for their original purpose. Their movements between the different stages will be governed by the same general principles as that of the original factors, a fall in the rate of interest will tend ² to bring about shifts to earlier stages and a rise in the rate of interest to bring about shifts to later stages. In fact, in most respects their position would become similar to that of the "original" factors of production, except that they are not sources of a permanent but only of a very limited stream of productive services.

The degree of mobility of the different intermediate products is, of course, very different and accordingly their value will be affected in very different degrees by any unforeseen change. Although this is one of the most obvious facts, it has an importance for the theory of capital which has very rarely been seen. It is perhaps one of the most urgent needs in the field of the theory of capital, that economists should at last free themselves of the idea that capital is some homogeneous mass, some given quantity of value, which will preserve its magnitude independently of the value of the real commodities of which it consists.

The notion that capital as such—i.e. the quantity of value which it represents—is completely mobile and can at will and without any loss of value be transformed in any concrete form,

¹ The proposition that an intermediate product is irrevocably committed to the stage of production for which it was intended implies, among other things, that it is perishable, because keeping it for consumption later than was originally intended would be equivalent to shifting it to an earlier stage.

² There will be exceptions from this tendency, since, in some cases, after some of the intermediate products in any stage of production have been shifted to earlier stages, it may be more profitable to use the intermediate products which have remained in a lower stage. The same applies, of course, to original factors where different kinds of such factors co-operate.

has already played much havoc in economic theory.¹ It would be true only if the concrete capital goods were just so many units of homogeneous "energy" which could be put to any use, *i e* if they were completely non-specific. But this, of course, corresponds even less to reality than the assumption of complete specificity. It seems reasonable to suppose that *all* the capital goods existing at any one moment are at least partly the result of an historical process which again and again has put existing capital goods to other uses than those for which they were originally intended, and that in consequence the actual form that capital takes will be very different from what it would be if the structure could be built up *ab ovo* with the help of an equivalent fund of free capital.

It was, of course, considerations of this sort which led Marshall to insist on the fact, that existing capital goods (as distinguished from free capital) did not yield interest but quasi-rent, and which made Wicksell describe at least the more durable capital goods as rent-goods (*Rentengüter*). For our main problem, to which we have to return now, it will be useful to think of all real capital as consisting of rent-goods in the extreme sense, *i e* as of non-reproducible, non-permanent instruments of production.² If it can be shown that even in this extreme case there exists a definite relationship between the value of the existing stock of such goods and the range of periods for which current labour is being invested, this will apply *a fortiori* to the less extreme cases.

The stock of all kinds of such "intermediate products" existing at any one moment represents a stream of future services.³

¹ An example of reasoning based on this assumption is Bohm-Bawerk's discussion of the effects of a rise of wages on the investment structure, to which Mr Hill refers in his article already quoted. The apparent contradiction pointed out by Mr Hill between Bohm-Bawerk's conclusions and those at which I have arrived in a discussion of the same problem (see the article on "Kapitalaufzehrung," *Weltwirtschaftliches Archiv*, July 1932) is simply due to the fact that Bohm-Bawerk assumes complete mobility of capital in this sense, while my analysis is based on the fact that at any moment capital will be definitely committed to particular forms of investment from which it cannot immediately be withdrawn. For a later and more satisfactory analysis of the process of "capital consumption" see J R Hicks, *Theory of Wages*, Chapters IX and X.

² For reasons which I cannot discuss here, it seems to me advisable to substitute "non-permanent means of production" for the usual "produced means of production" as the essential distinction corresponding to the traditional one between "capital" and "land". The fact that free capital is sometimes used to create means of production which are in a physical sense permanent (tunnels, etc.) creates a certain difficulty which is, however, not likely to become very serious, since even physically permanent intermediate products are rarely expected to remain permanently useful.

³ Under stationary conditions this stream of services expected from the existing stock of "intermediate products" will be equal to the sum of the still unexhausted parts of all the output streams attributable to the labour invested

which can be pictured by a diagram similar to that shown in Fig 1 *b*. While almost the total quantity of goods to be consumed in the intermediate future will already be in existence in nearly completed form, the share of the more distant parts of the output stream which will already be provided for by some such products of past labour will become smaller and smaller as we look further to the future. This output stream (or alternatively possible output streams) to be expected from the existing non-permanent goods is the main factor which will determine the direction of the investment of current "labour". If output is to be maintained at a constant level, it will be necessary to distribute "labour" in such a way between the different investment periods as gradually to complete the half-finished products for the future moments and to provide for the replacement of what is used up in such a way that at any future moment there will exist a stock of intermediate products equivalent in productive capacity to that existing now. The wish to maintain the output stream at a certain level will thus make it necessary to invest current labour for definite periods, and the existence of the old stock of non-permanent products will make it possible to do so without temporarily reducing the output stream below the level at which it can permanently be maintained.

It is not possible to attempt at the end of this article a more detailed description of the actual process by which the value and the time structure of the existing stock of rent-goods affect the investment of current labour. Such a discussion would have to include a close examination of the factors which determine the value of existing rent-goods, the rate at which they will be amortised, and the rate of return at which these amortisation quotas can be reinvested. It would be complicated by the fact that the process in question is an essentially dynamic process in the course of which the shape of the investment function for current labour would undergo a gradual change. Some at least of the problems here involved I hope soon to take up in a discussion of the

at successive moments in the past. But under dynamic conditions, where intermediate products will be used for other purposes than those for which they were originally intended, this strict correspondence between the output function which describes the output stream derived from the quantity of labour invested at a moment of time, and what one might call the integral output function, ceases to exist. This integral output function, which describes the output stream to be derived, not only from the original factors but from all goods existing at any one moment, assumes then an independent significance. It will probably prove to be the most fruitful concept for the analysis of dynamic processes. I understand that it is in this form that the concept of the output function will take a central position in Mr V. Edberg's forthcoming publication on these problems.

closely related problem of the meaning of "maintaining capital intact."

It is hoped, however, that what has been said will at least make it plausible that even if there should be no correspondence whatever between the technical composition of the existing stock of real capital and the kind of capital goods in which current labour is invested, yet the value of the existing real capital limits within fairly narrow ranges the time dimension of current investment. It might, in some ways, even have been more fortunate if the connection had been stated in this way, namely, that the existing stock of real capital determines the investment structure of current labour, rather than in the inverse form, although it is, of course, true that it is by changes in this investment structure that changes in the quantity of real capital are brought about.

That anything which will tend to lengthen this investment structure of current labour will lead to increases of the quantity of capital and anything which tends to shorten it will lead to a reduction of capital, remains a point of fundamental importance. But the main point to remember here is that it is not simply changes in the value of the existing capital goods in general, but changes in their relative value, which will cause such changes in the direction of current investment. A rise of the value of those parts which will give their returns in the more distant future will lead to the investment of a greater part of the current labour for longer periods and vice versa. It is the emphasis which the concept of the period of production (investment function) places on this time structure of the stock of real capital, on the fact that it is not a homogeneous mass but that it is organised in a definite way and that the only method by which we can understand this organisation is by concentrating on the place of individual capital goods in this time structure, that constitutes its true usefulness.

F. A. VON HAYEK

THE ELASTICITY OF SUBSTITUTION

1. THERE has recently been developed and discussed by a number of writers—notably Dr Hicks, Mrs Robinson and Mr. Kahn—a new concept, which they call the elasticity of substitution. When I first considered this concept it seemed to me that it might prove a valuable tool in the analysis of distribution, and, in setting out to write a chapter on that subject, I expected to make considerable use of it. In the event I have found it of less service than I had anticipated, but in the course of the inquiry some general considerations emerged, which it may perhaps be worth while to set down. In writing this paper I have had the advantage of criticism from Mr. Kahn, who has also very kindly checked over the algebra.

2. The elasticity of substitution in its most fundamental form may be defined as “the proportional change in the ratio of the amounts of the factors (engaged in producing any commodity) divided by the proportional change in the ratio of their marginal physical productivities.”¹ This definition, applied to industries, not, as Mrs Robinson, from whom this wording is taken, applies it, to individual firms, may be expressed symbolically thus. Let a and b be the quantities of any two factors of production A and B —it is immaterial how many factors there are—engaged in producing some commodity, and p_a and p_b their marginal products. When a increases to $(a + \Delta a)$, b becomes $(b + \Delta b)$, p_a becomes $(p_a + \Delta p_a)$ and p_b becomes $(p_b + \Delta p_b)$. The elasticity of

substitution, which we may call η , is then equal to $\frac{\frac{\Delta a}{a}}{\frac{\Delta b}{b}} - \frac{\frac{\Delta p_a}{p_a}}{\frac{\Delta p_b}{p_b}}$

Let us write α , β , π_a and π_b for $\frac{\Delta a}{a}$, $\frac{\Delta b}{b}$, $\frac{\Delta p_a}{p_a}$ and $\frac{\Delta p_b}{p_b}$. Then

by an easy reduction we have, in the limit, $\eta = \frac{\alpha - \beta}{\pi_a - \pi_b}$ ²

¹ Robinson, *The Economics of Imperfect Competition*, p. 330 n., and Kahn, *Review of Economic Studies*, Oct. 1933, p. 72.

² The writers who have so far made use of this concept have usually preferred, when treating the matter formally, to define the elasticity of substitution as $-\frac{\alpha - \beta}{\pi_a - \pi_b}$. This is a matter of taste. I prefer not to insert the minus sign, and shall proceed on that plan in the discussion that follows.

3. This way of defining the concept implies that there is, between any two factors that it relates, a single unambiguous elasticity of substitution, irrespective of the manner in which the initial equilibrium situation is supposed to be disturbed. As will be shown presently, this implication is, in fact, correct in the special case where the relevant productivity function is homogeneous in the first degree—*i.e.* where conditions are such that equi-proportionate changes in the quantities of all the associated factors entail a change in the same proportion in the quantity of output¹—and where only two factors of production are operating. In the general case, however, it is clear that no implication of this sort holds. When the proportional quantities of any two factors alter in a given measure their proportional marginal productivities will, in general, alter differently according to the nature of the disturbance that has taken place—according as it is brought about by a shift in *A*'s supply function, or in *B*'s or *C*'s or *D*'s. Thus there is not, between any two factors, a single elasticity of substitution, but a large number of such elasticities. As between factors *A* and *B* there are elasticities, which we may write $a\eta_{ab}$, $b\eta_{ab}$, $c\eta_{ab}$, and so on, according as the initial equilibrium has been disturbed by a move in *A*'s, *B*'s or *C*'s supply function. Similarly, as between any two factors *Q* and *R*, there are a series of elasticities of substitution, which, with a like significance, may be written $a\eta_{qr}$, $b\eta_{qr}$, $c\eta_{qr}$, and so on. Thus, if there are *n* factors of production there are, in general, $\frac{n^2(n-1)}{2}$ elasticities of substitution. The fact that in the special case of two factors and a homogeneous function of the first degree the two elasticities $a\eta_{ab}$ and $b\eta_{ab}$, which this formula allows, happen to be identical does not, of course, invalidate the rule.

4. Let us now investigate the particular elasticity of substitution $a\eta_{ab}$ in the general case where there is no proviso either that the productivity function is a homogeneous function of the first degree or that there are only two associated factors. It will be enough for our purpose to consider a system containing three factors. The presence of a larger number would extend the algebraic analysis, which is, in any event, cumbrous, without introducing any new point of interest. Write for the productivity function *F* and for the quantities of the several factors *a*, *b*, *c*

¹ In a many firm industry this implies that the marginal physical productivity of any factor to the firm by which it is employed is equal to its marginal productivity to the whole industry, *i.e.* that marginal private and marginal social product coincide.

so that the quantity of product is $F(a, b, c)$ For simplicity of working let us choose units such that $a = b = c$ This, of course, makes no difference to the result reached For the marginal product of A , namely $\frac{\partial F(a, b, c)}{\partial a}$, write p_a , analogously for the marginal products of B and C Next distinguish a series of elasticities, to be called *elasticities of partial productivity* For each factor there is an elasticity of partial productivity in respect of shifts in the supply functions of itself and of each of the others The elasticity of partial productivity of factor A in respect of B is the proportional change in the marginal productivity of A due to a given proportional change in the quantity of B , when the quantities of all the other factors are unaltered, divided into that proportional change Thus write $_{a\epsilon a}$ for A 's elasticity of partial productivity in respect of changes in A , $_{b\epsilon a}$ for A 's elasticity of partial productivity in respect of changes in B , and so on Then—

$$\begin{aligned}\frac{1}{_{a\epsilon a}} &= \frac{a}{p_a} \frac{\partial p_a}{\partial a} \\ \frac{1}{_{b\epsilon a}} &= \frac{b}{p_a} \frac{\partial p_a}{\partial b} \\ \frac{1}{_{c\epsilon a}} &= \frac{c}{p_a} \frac{\partial p_a}{\partial c} \\ \frac{1}{_{a\epsilon b}} &= \frac{a}{p_b} \frac{\partial p_b}{\partial a} \\ \frac{1}{_{b\epsilon b}} &= \frac{b}{p_b} \frac{\partial p_b}{\partial b} \\ \frac{1}{_{c\epsilon b}} &= \frac{c}{p_b} \frac{\partial p_b}{\partial c}\end{aligned}$$

while $\frac{1}{_{a\epsilon c}}$, $\frac{1}{_{b\epsilon c}}$ and $\frac{1}{_{c\epsilon c}}$ have corresponding meanings

Write db and dc for the changes in the quantities of B and C that are brought about when the quantity of A is changed, through a shift in A 's supply function, from a to $(a + da)$ Finally write e_a , e_b , e_c for the elasticities of the supply functions of A , B and C Then the elasticity of substitution between A and B in respect of shifts in A 's supply function, namely—

$$_{a\eta ab} = \left\{ \frac{\frac{d}{da} \left\{ \frac{a}{b} \right\}}{\frac{a}{b}} - \frac{\frac{d}{da} \left\{ \frac{p_a}{p_b} \right\}}{\frac{p_a}{p_b}} \right\} = \frac{p_a b}{p_b a} \left\{ \frac{d}{da} \left\{ \frac{a}{b} \right\} - \frac{d}{da} \left\{ \frac{p_a}{p_b} \right\} \right\}$$

Hence, by algebraic manipulation, we obtain

$$\frac{1}{a\eta_{ab}} = \left\{ \left\{ \frac{1}{a\epsilon_a} - \frac{1}{a\epsilon_b} \right\} + \frac{db}{da} \frac{1}{b\epsilon_a} - \frac{1}{b\epsilon_b} \right\} + \frac{dc}{da} \left\{ \frac{1}{c\epsilon_a} - \frac{1}{c\epsilon_b} \right\} \right\} - \left\{ 1 - \frac{db}{da} \right\} \quad (I)$$

5 This formula contains two unknowns, $\frac{db}{da}$ and $\frac{dc}{da}$, and is, therefore, without significance until the values of these have been determined. For that to be possible some assumption must be made about the relation between the rates of payment of the factors B and C and their marginal products. The natural assumption is that the relation is one of equality. If the productivity function is homogeneous in the first degree, and if conditions of perfect competition prevail, this assumption must conform to the facts. The rate of payment of every factor must then be equal to its marginal product. If the condition of homogeneity is not satisfied, it is *impossible* for this to be true of *all* the factors, for payment on that plan would involve aggregate receipts for all the factors together either greater than or less than aggregate output. But that the two factors B and C should be paid in accordance with their marginal productivity is still possible. Let us suppose that they are, in fact, so paid. It follows that, for equilibrium, the marginal product of B must be equal to the supply price of the extant quantity of it, and similarly for C . Hence the change in the marginal productivity of B consequent on the shift in A must be equal to the change in its supply price, and similarly for C .

$$\text{Hence} \quad \frac{d}{da} \{p_b\} = \frac{db}{da} \frac{p_b}{b} \frac{1}{e_b}$$

$$\text{But} \quad \frac{d}{da} p_b = \frac{\partial}{\partial a} p_b + \frac{db}{da} \frac{\partial}{\partial b} p_b + \frac{dc}{da} \frac{\partial}{\partial c} p_b$$

$$\text{Hence} \quad \frac{db}{da} \frac{1}{e_b} = \frac{1}{a\epsilon_b} + \frac{db}{da} \frac{1}{b\epsilon_b} + \frac{dc}{da} \frac{1}{c\epsilon_b}$$

$$\text{In like manner,} \quad \frac{dc}{da} \frac{1}{e_c} = \frac{1}{a\epsilon_c} + \frac{dc}{da} \frac{1}{c\epsilon_c} + \frac{db}{da} \frac{1}{b\epsilon_c}$$

Writing $\left(\frac{1}{b\epsilon_b} - \frac{1}{e_b}\right) = m$ and $\left(\frac{1}{c\epsilon_c} - \frac{1}{e_c}\right) = n$, we derive from these equations

$$\frac{db}{da} = -\frac{1}{a\epsilon_b} + \frac{1}{n} \frac{1}{a\epsilon_b} \frac{1}{a\epsilon_c} \quad (II)$$

$$m = \frac{1}{n} \frac{1}{c\epsilon_b} \frac{1}{b\epsilon_c}$$

$$\text{and} \quad \frac{dc}{da} = -\frac{1}{a\epsilon_c} + \frac{1}{m} \frac{1}{b\epsilon_c} \frac{1}{a\epsilon_b} \quad (III)$$

$$n = \frac{1}{m} \frac{1}{b\epsilon_c} \frac{1}{c\epsilon_b}$$

By substituting the values of $\frac{da}{db}$ and $\frac{dc}{da}$ thus obtained in equation

(I) we are able to express $\frac{1}{a\eta_{ab}}$ in terms of e_b , e_c and the various ϵ 's

It is not necessary to write out the highly complex expression that results. The essential point is that e_b and e_c , representing the elasticities of supply of B and C , are contained in it.

6 Let us now suppose, not only that the factors B and C are paid in accordance with their marginal products, but also that they are associated in a homogeneous function of the first degree. This condition entails the equality

$$\frac{\partial}{\partial a}\{p_a\} + \frac{b}{a} \frac{\partial}{\partial b}(p_a) + \frac{c}{a} \frac{\partial}{\partial c}(p_a) = 0,$$

and its two analogous equations

For the marginal product of each factor is, with a homogeneous function of the first degree, unaltered by an equal proportional change in the quantities of all of them

$$\text{Hence we have} \quad \frac{1}{a\epsilon_a} + \frac{1}{b\epsilon_a} + \frac{1}{c\epsilon_a} = 0 \quad (\text{IV})$$

$$\frac{1}{a\epsilon_b} + \frac{1}{b\epsilon_b} + \frac{1}{c\epsilon_b} = 0 \quad (\text{V})$$

$$\frac{1}{a\epsilon_c} + \frac{1}{b\epsilon_c} + \frac{1}{c\epsilon_c} = 0 \quad (\text{VI})$$

No essential simplification is made in the complex final expression for $\frac{1}{a\eta_{ab}}$. In particular the elements e_b and e_c are not eliminated from it. Thus, equally whether or not we assume that the productivity function is homogeneous, the elasticity of substitution between A and B in respect of shifts in A does not measure any characteristic either of the general productivity function or of any supply function, but is a complex consequence of interactions between productivity and supply.

7 The next step takes us to the special case in which there are only two factors of production. If we require the factor B to be paid according to its marginal productivity, but do not require the productivity function to be homogeneous in the first degree, the formula for the elasticity of substitution between A and B in respect of shifts in A 's supply function is greatly

simplified The element $\frac{dc}{da}$, of course, disappears The element $\frac{db}{da}$ is then derived from the single equation

$$\frac{db}{da} \frac{1}{e_b} = \frac{1}{a e_b} + \frac{db}{da} \frac{1}{b e_b}$$

Hence

$$\frac{db}{da} = \left\{ -\frac{1}{a e_b} - \left(\frac{1}{b e_b} - \frac{1}{e_b} \right) \right\}$$

Inserting this value in the general equation (I), we obtain

$$\begin{aligned} \frac{1}{a \eta_{ab}} &= \left[\frac{1}{a e_a} - \frac{1}{a e_b} - \left\{ \frac{1}{a e_b} \left(\frac{1}{b e_a} - \frac{1}{b e_b} \right) - \left(\frac{1}{b e_b} - \frac{1}{e_b} \right) \right\} \right] - \left\{ 1 + \frac{\frac{1}{a e_b}}{\frac{1}{b e_b} - \frac{1}{e_b}} \right\} \\ &= \frac{\frac{1}{a e_a} \frac{1}{b e_b} - \frac{1}{a e_b} \frac{1}{b e_a} - \frac{1}{e_b} \left\{ \frac{1}{a e_a} - \frac{1}{a e_b} \right\}}{\frac{1}{a e_b} + \frac{1}{b e_b} - \frac{1}{e_b}} \end{aligned} \quad \text{(VII)}$$

This expression is, of course, very much less cumbrous than that proper to the case of three (or more) factors of production But, it will be observed, the elasticity of supply of B , namely e_b , is still contained in it

8 Finally, let us add the condition that the productivity function is a homogeneous function of the first degree In accordance with what is said in § 6, this entails, when there are only two factors,

$$\frac{1}{a e_a} + \frac{1}{b e_a} = 0 \quad \text{(VIII)}$$

$$\frac{1}{a e_b} + \frac{1}{b e_b} = 0 \quad \text{(IX)}$$

Hereupon the complex formula of the preceding section reduces to the very simple expression

$$\frac{1}{a \eta_{ab}} = \frac{1}{a e_a} + \frac{1}{b e_b} \quad \text{(X)}$$

an expression which is also obtainable direct from equation (I)

The companion expression $\frac{1}{b \eta_{ab}}$ obviously has an identical value

This value, *if the rule of diminishing returns for factors of production is obeyed*, and if my usage of not inserting a minus sign is followed, must be negative, since each of $a e_a$ and $b e_b$ is negative In any event, whether this is so or not, the element

e_b has been eliminated, while the element e_c does not, of course, exist. The elasticity of substitution describes certain characteristics of the productivity function, and is not connected with supply conditions in any way. It is an elementary fact, and not a consequence of a series of complex interactions.

9 Having thus completed our analysis, we have to consider its practical implications. The first of these concerns the special case of two factors only, associated in a productivity function homogeneous in the first degree. If the characteristics of the productivity function which the elasticity of substitution in this case defines can be shown to be relevant to the solution of any important problem, there is excellent reason for disentangling them and giving them a name. This can and has been shown. Thus Dr Hicks and Mr Kahn have proved that, when, subject to the above conditions, the quantity of one of two factors is increased, the effect on that factor's proportional share of the product depends on the way in which the magnitude of the elasticity of substitution is related to unity. Again, Dr Hicks has used the concept—once more, of course, subject to the above conditions—to extend and generalise an important theorem of Marshall's. Marshall, it will be remembered, worked out, in respect of a commodity made up of two elements whose proportions are fixed, *e.g.* knives containing one blade and one handle each, rules relating the elasticity of demand for one element to the elasticity of demand for the whole commodity, the elasticity of supply of the other element and the comparative parts played by the two elements in the total cost. He had also observed, without furnishing formal proof, that these rules are not substantially modified if the commodity is of such a sort that the proportions between the elements are different when different amounts are being produced, *e.g.* if knives made on a large scale always have two blades each.¹ It is easy to see that, when some commodity is being produced by the joint action of a number of factors of production, the factors play a part analogous to that of the elements, handles and blades, in Marshall's case. If, therefore, the proportions between their respective quantities are rigidly fixed, or if, not being fixed, they are functions of the quantity of commodity that is being produced, Marshall's elasticity rules apply. But of course, in fact, when we are dealing with factors of production, and not with elements such as the handles and blades of knives, these conditions are not satisfied. For the proportions in which the several factors are employed

¹ *Principles* Mathematical Note XV

will depend in part upon their prices, and, at all events with a commodity that engages large amounts of the factors, these prices will be modified when the output of the commodity is modified. Hence it is important to find, in respect of this more general case, rules corresponding to those which Marshall found in the particular case where the proportions of the constituent elements are independent of their prices. For two factors associated in a productivity function homogeneous in the first degree Dr Hicks has done this. Write E for the elasticity of demand for the commodity, e for the elasticity of supply of factor B , m for the proportional part of the total cost that consists in payments to A , and λ for the elasticity of demand for factor A . Then, when Marshall's conditions are satisfied, his rules can be expressed in the formula $\lambda = \frac{mEe}{E(1-m) + e}$. Mr Hicks has shown in effect that, if we write η for the elasticity of substitution between A and B ,

$$\lambda = \frac{\eta(E + e) + me(E - \eta)}{E + e - m(E - \eta)}$$

In Marshall's simple case η is nil so that, in that case, the generalised formula reduces, as of course it is bound to do, to his formula. Dr Hicks' result is an important one, and the use of the symbol η enables it to be expressed in a very compact form. A third interesting application of the new concept has been made by Mrs Robinson. She has shown—again, of course, only for the case of two factors and a productivity function homogeneous in the first degree—that, when the quantity of one factor is increased, the demand price per unit for the existing quantity of the other is increased or diminished according as the elasticity of demand for the commodity is (numerically) larger or smaller than the elasticity of substitution.² Thus in the somewhat rarefied atmosphere in which alone it has so far been employed the new concept has fully proved its worth.

10 The second implication of the foregoing analysis is, I

¹ *The Theory of Wages*, p. 244. In this formula, which is translated directly from Dr Hicks' version, η is defined on his plan as $-\frac{a-\beta}{\pi_a-\pi_b}$, not on my plan, which omits the minus sign.

² *The Economics of Imperfect Competition*, p. 259. For these two last applications the elasticity of substitution must be defined as the proportional change in the ratio of the quantities of the two factors divided by the proportional change in the ratio, not of their marginal products, but of their money prices. Provided, however, as is here assumed, that the factors are paid according to their marginal productivities, the elasticity of substitution is obviously the same whether it is defined in the one way or in the other.

suggest, this For problems, in respect of which the relevant elasticity of substitution is a complex describing characteristics of one or more supply functions interwoven with characteristics of the productivity function, the concept, as so far defined, is of no service If and when we have expressed the conditions of some event in a formula embodying the elasticity of substitution, we have merely posed our problem in a new form, we have done nothing towards solving it It may, perhaps, be retorted that, if this consideration condemns the elasticity of substitution as an unsatisfactory tool of analysis, it equally condemns, for example, the elasticities of demand and supply Formulæ, it may be said, containing these elements, equally with those containing the elasticity of substitution, are only elaborate tautologies When, for example, we have shown, in terms of the elasticities of demand and supply, the effect of a tax upon the price of a commodity, we have said nothing about the real influences by which that effect is determined We have merely disentangled the *questions* to which answers are wanted This, of course, is true Nevertheless, this sort of disentangling serves a real purpose The elasticities of demand and of supply are independent elementary economic facts, the general character of whose causation is understood, and which, in some conditions, it may even be possible to measure statistically A formula that embodies these elements, though not itself realistic knowledge, is a bridge which, if realistic knowledge is to be reached, must be provided and must be crossed A formula containing the elasticity of substitution, on the other hand, is an *unnecessary* bridge that gives no help It does not dispense us with crossing the *necessary* bridges, it provides a roundabout way of coming to them It is no easier to go by the roundabout way than by the direct way, and it takes a longer time

11 In these circumstances it is open to us either to retain the definition for elasticity of substitution that I have been studying and recognise frankly that the concept is serviceable only in the narrow class of cases discussed in § 9, or to modify the definition in such wise as to exclude the *e's ab initio* One definition that would accomplish this has been suggested to me

privately by Dr Hicks Under it ϵ_{ab} is equal to $\frac{\Delta \frac{a}{b}}{\frac{a}{b}} - \frac{\Delta \frac{p_a}{p_b}}{\frac{p_a}{p_b}}$

when a small amount of *A* is substituted for *B* in such a way as to leave the total product unchanged, and the amounts employed

of other factors, C , D , etc., remain constant. This implies that $\frac{dc}{da} = 0$ and that $\frac{db}{da}$ is such as to make $\frac{d}{da} \{ap_a + bp_b + cp_c\} = 0$. Hence from equation (I)

$$a\eta_{ab} = \frac{\left\{ \frac{1}{a \in a} - \frac{1}{a \in b} \right\} \left\{ p_a \frac{1}{b \in a} + p_b \left(1 + \frac{1}{b \in b} \right) + p_c \frac{1}{b \in c} \right\} + \left\{ \frac{1}{b \in b} - \frac{1}{b \in a} \right\} \left\{ p_a \left(1 + \frac{1}{a \in a} \right) + p_b \frac{1}{a \in b} + p_c \frac{1}{a \in c} \right\}}{p_a \left(1 + \frac{1}{a \in a} + \frac{1}{b \in a} \right) + p_b \left(1 + \frac{1}{a \in b} + \frac{1}{b \in b} \right) + p_c \left(\frac{1}{a \in c} + \frac{1}{b \in c} \right)}$$

The companion expression for $\frac{1}{b\eta_{ab}}$ is obviously identical with this. A much simpler method of extruding the e 's is to define $a\eta_{ab}$ as above, substituting for the words there italicised, the words *when a small amount of A is added and the amounts employed of all the other factors, including B, are constant*. This implies that $\frac{dc}{da} = 0$ and also $\frac{db}{da} = 0$. Hence from equation (I) $\frac{1}{a\eta_{ab}} =$

$$\left\{ \frac{1}{a \in a} - \frac{1}{a \in b} \right\} \quad \text{The companion expression for } \frac{1}{b\eta_{ab}} \text{ is } \left\{ \frac{1}{b \in b} - \frac{1}{b \in a} \right\}$$

When there are only two factors of production associated in a homogeneous function of the first degree, both the above ways of defining the elasticity of substitution come to the same thing as the way discussed in an earlier section. All the ways make $\frac{1}{a\eta_{ab}}$ and $\frac{1}{b\eta_{ab}}$, both equal to $\left\{ \frac{1}{a \in a} + \frac{1}{b \in b} \right\}$. For this case, therefore, any of the definitions may be used indifferently. But for the general case this is not so. Both new definitions have the advantage that they describe characteristics of the productivity function without any intrusions from the side of factor supply. The second is obviously much the simpler of the two. Whether either of them can be turned to a useful purpose in treating the problem of distribution among more than two factors of production remains to be seen. In my own work I have so far found it more convenient to deal with the elasticities of partial productivity individually rather than with combinations of them.

A. C. PIGOU

THE PROBLEM OF MANAGEMENT AND THE SIZE OF FIRMS

THERE have appeared in the last few months two books which require the careful consideration of all who are interested in the study of the structure of industry in its relation to the size of the productive unit. The first of these is Professor Florence's *The Logic of Industrial Organisation*, the second is Part I of the Final Report on the Fourth Census of Production (1930), which gives us for the first time authoritative figures for the size of firms in various British industries, measured by the number of persons employed.

Professor Florence insists that the logic of organisation would require the concentration of production in units of the largest size, that it is only avoidable human failings which result in smaller plants and undertakings¹. He criticises Professor J. H. Jones² and myself³ for holding the view that the limit to the optimum size of an undertaking is to be found in the increasing costs of co-ordination required for the management of larger units. This view, he says, is exclusively held by economists, and he suggests that the experienced business organiser would take a diametrically opposite view⁴. In support of his argument he

¹ See Florence, *The Logic of Industrial Organisation*, p. 11. "Now that the structure of industry with its firms and plants has been analysed and the various possible references of the 'scale of production' made more definite, we may advance to enunciate a bold proposition. There are logical reasons for supposing that, granting the advantages of mechanical and human specialisation, *large scale production, especially when conducted in large-scale firms and plants*, results in maximum efficiency" (His italics). And p. 12 "the more the amount of any commodity that is provided the greater the efficiency."

See also p. 117 "Undoubtedly there are a few men who would be competent to head industrial organisations of almost any size, but if we believe in the normal distribution of inborn abilities, we may assume that such geniuses are rare, and that the average head of the business is not competent to manage unaided on a scale beyond a certain point." And p. 47 "Logically under modern conditions the larger organisations should immediately outdo the presumably less efficient smaller organisation, but in fact there is a lag, owing to the stickiness or 'friction' of the market, i.e. the slow adaptation of the consumer, and owing on the production side also to the difficulties in the rapid growth of organisations."

² *Economics of Private Enterprise*, pp. 123-4.

³ *Structure of Competitive Industry*, p. 48.

⁴ As regards authority for this view, though research by casual conversation is at best unreliable, my own experience of questioning business organisers is somewhat different from that of Professor Florence. Many, engaged in many industries, and in particular in the cotton, wool and coal industries, and in various

quotes Messrs Mooney and Reiley ¹ to the effect that "the vastest organisation that the human mind can conceive will not be too vast for efficient one-man leadership if the (hierarchical) and functional principles are correctly applied"

With the idea of the economy of the very large unit in mind it is interesting to turn to the Final Report of the Census of Production, and to test these opinions by reference to the facts disclosed there. The statistics relate only to firms ² employing more than ten work-people in each case, and the present volume covers only the Textile, Leather and Clothing Trades

	Percentage of Total Workers, employed in Firms employing less than				No of firms with 200 workers or above
	50	100	200	300	
Artificial Silk	3	8	17	22	45
Jute	1	3	12	28	52
Woollen and Worsted	5	14	29	44	323
Hosiery	10	22	40	49	113
Linen and Hemp	5	15	35	49	22
Cotton Spinning	3	10	24	48	362
Cotton Weaving	3	14	38	58	322
Textile Finishing	9	22	43	55	108
Boot and Shoe	10	23	42	56	162
Tailoring and Dressmaking	22	39	56	67	309
Hat and Cap	19	36	61	74	35
Lace	27	51	73	83	14
Saddlery and Harness	34	57	81	100 *	10
Umbrella and Walking-stick	41	63	100 †	100 †	—

* No analysis over 200

† No analysis over 100

(N.B.—Workers in firms employing less than ten persons are excluded from these figures.)

"fashion industries," have told me that units beyond a certain size were from the point of managerial costs and efficiency less economical

The most interesting example of this view that I have found in print is contained in some remarks made by Sir Ernest Gowers, Chairman of the Coal Mines Reorganisation Commission, in the course of an address to the Cardiff Business Club (*Colliery Guardian*, March 3rd, 1933) "There must be some optimum size of unit, a size that will secure the admitted benefits of large-scale control without being too big for the control to be efficient. I do not pretend to be able to say categorically what the optimum size is. Colliery owners and managers themselves have very diverse opinions about it. It must, of course, vary in different coal-fields. But what is quite certain is that the optimum is greater than the size of the vast majority of undertakings in the Coal industry to-day. Even on the most modest estimate of the maximum size capable of efficient control, there is plenty of scope for amalgamation for this purpose alone."

¹ See Mooney and Reiley, *Onward Industry*, p. 308

² A precise definition of the "firm" is impossible. The procedure adopted by the Census authorities is described as follows: "Forms were issued in respect of each establishment, but where a firm owning more than one establishment in the same trade preferred to make a single combined return covering all establish-

At one end of the scale of the industries concerned we have the artificial silk and silk trade. Here 66 per cent of all workers are employed in firms of 750 work-people and above (61 per cent actually in firms employing above 1,000) and only 8 per cent in firms employing less than 100 persons. Jute follows next with 32 per cent of all workers in firms of 750 persons and above and only 3 per cent in firms with less than 100. We then find a group of industries for which it is approximately true to say that half the workers are in firms greater and half in firms less than 300 workers: hosiery, the cotton trades, the woollen and worsted trade, textile finishing and the boot and shoe trade. There follows the tailoring trade with about half the workers in firms of less than 200 workers, and finally we have the hat and cap trade, the saddlery and harness trade and the umbrella trade with more than half the workers in firms of less than 100 persons. It is evident from the figures that there are wide variations of size of firms both within industrial trades and as between trade and trade. Yet there remains a sense in which we can usefully say that firms in the silk and rayon trades are larger than those in the tailoring and dressmaking trade, and the latter in turn larger than those in the umbrella trade.

We find here fact, as represented by the statistics, in considerable conflict with theory, as represented by Professor Florence's logical organisation. Some explanations of the continued survival of large numbers of firms of small or only moderate size must therefore be provided.

In the course of the many discussions of the survival of the small firm three main types of explanation have emerged. The first, which is chiefly identified with the name of Professor Marshall, may be called briefly the Biological Solution. Marshall, insisting always on the importance of economic biology, found his explanation in the growth and decay of firms.¹ A firm might for a time enjoy economies from expansion and so progressively grow larger. But in time a less quick application of new methods, a less energetic

ments in one area, this course was usually allowed, subject to the number of operatives employed at each establishment being shown separately. On the other hand, where a firm carried on more than one trade in the same establishment, separate returns were obtained for each trade wherever firms were in a position to furnish them. Neither the number of establishments nor the number of returns received therefore necessarily express for any trade the number of firms engaged in that trade. This circumstance should be borne in mind in considering the tables dealing with "Size of firms" which are based on the average number of persons employed as shown in the individual returns." Final Report, Part I, p. xii

¹ See Marshall, *Principles of Economics* (8th edn.), pp. 286-7, 299-300, 315-17.

management, a less skilful resistance to misfortune would give opportunity for younger and smaller firms to enter and take for themselves part of the former market, even though greater size might have led to a further reduction in the costs of the older firm.

This solution would appear to postulate both a slow maximum rate of expansion and a rapid onset of senile decay. In fact in a growing industry the rate of expansion may be very great. In ten years two motor-car firms have grown from a size close to that of the cotton firms to a size some fifty times as great. Several radio firms have expanded within a similar period to a size some five times greater than that of most textile firms.

It is, of course, true that in older and more stable industries expansion is generally slower, since it must be substitutive rather than additive. The condition of substitution of new plant for old is that total cost with the new plant shall be less than prime cost with the old. The smaller is prime cost as compared with total cost, the nearer must the long period be approached before substitution will take place. But in so far as the economies of large scale may be realised by concentrating the ownership and management of a number of previously separated technical units, growth which is neither purely substitutive nor purely additive is seldom difficult and may be very rapid, as has recently been seen, for example, in the case of the unification of the various road transport services in this country.

Even purely substitutive growth, however, is often so rapid that it is difficult to imagine that in the time that it takes efficiency will be substantially diminished. One would rather expect it to increase, for some time at least, with experience. Woolworth and Marks & Spencer, for instance, have entered a market which, even granted some initial inefficiency based on excessive margins hallowed by traditional practice, is yet fairly severely competitive, and in less than a decade have reached a size greater than almost any of their competitors.

But the chief objection to the biological explanation must be one of fact. The industries in which expansion should be most rapid are those in which the market is most perfect, in which goodwill counts for least. Of all the industries in England in which we should expect expansion to be easiest the cotton and woollen industries are the first. Yet they exhibit more than almost any others the survival of the comparatively small unit. For mechanical reasons the purely technical gains of large scale in these industries are not very great, and expansion by purchase of additional mills would never in recent years have been difficult

Yet, apart from the various attempts at monopolistic unification, the concentration of small units into moderately large units has made very little progress. It is difficult to believe that this can be accounted for wholly, or even in substantial measure, by the decline of business capacities during the period required for expansion.

The second solution may be called the solution of Imperfect Competition. Fathered originally by Adam Smith, it has enjoyed a great revival in the past few years.¹ Put briefly, the argument is this. Any given market is limited by the density, the wealth, and the tastes of the population within it. The size of the market that can be served by any one firm is thus limited by the density of the market and the area which can be reached at a given transport cost. A firm reaches equilibrium when marginal revenue, as calculated at the works of the firm (and the resultant, therefore, both of density and of transport cost) equals marginal cost also at the works. The level of the marginal revenue will depend, in each case, on the extent to which the firm discriminates within the limits made possible by the transport costs.

But if it were true that the size of the market and the level of transport costs dictated the size of the firm, we should expect firms to locate themselves in such a way that transport costs were at a minimum. We should expect to find each firm (granted a given density of population of uniform wealth and taste, a given level of transport costs, and equal cost in each firm) in the centre of its own hexagonal market, touching six other similar hexagonal markets, and at such distance from the next firm that at the margin for each firm marginal revenue (calculated at the centre) was equal to marginal cost.

We should not expect to find highly localised industries with a number of comparatively small units, such as are to be found in the textile and cutlery trades. For if local economies of raw materials or other external economies required production in one area we should expect to find amalgamation of the small units into large units at these advantageous positions.²

The size of the market may be limited also by goodwill. This

¹ For instance, in the work of P. Sraffa, G. F. Shove, E. Chamberlin, R. F. Harrod, Mrs. Robinson. Marshall did not exclude this solution (see, e.g., *Principles*, p. 501), but the central place in his argument is undoubtedly held by the biological explanation.

² In this connection it is interesting to remember that in those industries in which transport costs are a large proportion of total costs (iron and steel affords a possible example), very large productive units are as often an indication of a scarcity of natural resources as of a superiority of organising ability. For such

is in practice probably one of the most important limits to expansion. But goodwill is most important in relation to the ignorant purchaser, and far less important in relation to the skilled purchaser. If I wish to buy a good motor oil I must trust to the reputation of a brand. If the Air Ministry wishes to buy oil it can test its suitability by elaborate analysis and offer a higher price only for a better article. We should expect to find imperfections of the market large in close proximity to the ignorant customer, comparatively small in a market where experts are trading and their number is small. We should not, for example, expect a large measure of imperfection in the earlier stages of production in the textile trades, where the unfinished product is sold by experts to experts on an organised market. Moreover, the extent to which goodwill imperfection can limit the size of the firm is itself limited. The difference between marginal cost and average cost can be no greater than the difference between marginal and average revenue, that is to say, the rate of increasing returns must equal the degree of imperfection of the market. Unless the market is highly imperfect the rate of increasing returns at the margin must be small.

Neither of these two solutions offers an entirely adequate explanation of the facts as they exist. There remain two further solutions, which may perhaps be better regarded as variations of a single one. First there is Professor Florence's solution, which I take to be that in an actual, illogical world there is an optimum firm, but that its existence is due only to avoidable incompetence.¹ Second, there is the solution which, I think, Professor Jones, and certainly I myself would offer, that in a perfectly organised world an optimum firm is to be found. I should be prepared to agree that in some circumstances it may be very large indeed, that for some products which are consumed rarely and not in large amounts

scarcity will require production to be concentrated at the few sources of the raw material, and the fact of this local concentration will make possible the amalgamation of the smaller units into larger and technically more efficient units. It has been suggested to me that this may be in part the explanation of the larger productive units in the Iron and Steel trade of the United States as compared with those in England.

¹ It is, of course, impossible to draw a hard and fast line between what I imagine Professor Florence to be saying and what I myself am attempting to say. The limitation to the scale that can be managed arises, even in my view, from the limitations of human abilities, from the fact that they can only think and organise at a certain pace, that they can only crowd so much work into twenty-four hours, that persons take time to convince, and so on. The distinction between us lies in the fact that I should hold that no conceivable improvement of the qualities of human beings, as we know them, could expand the necessary capacities for management indefinitely.

the optimum size might be greater than would be afforded by the whole world market. But I should certainly hold that for every type of product there is in a given state of technique some size at which the technical and other economies of larger scale production are outweighed by the increasing costs of the co-ordination of the larger unit, or by a reduced efficiency of control due to the growth of the unit to be co-ordinated. The point at issue between Professor Florence and myself is whether, in conditions of perfect organisation, management costs will rise as output increases, or managerial efficiency will diminish. It is to that question that I wish now to devote attention.

As Mr Kaldor has pointed out in a recent article¹ in the *ECONOMIC JOURNAL*, in conditions of perfectly competitive supply prices of factors of production, increasing cost can only exist for the firm if some factor of production is necessarily a scarce factor from the point of view of the firm, but in perfectly elastic supply from the point of view of all the firms in the industry. This can only happen if for some reason a firm is precluded from increasing the number of units of the factor that it employs, if, that is, it is of the essence of the firm that it employs one unit and one only. The only factor of production which is of this character is the factor of co-ordination. So far as the purely supervisory tasks of management are concerned, Mr Kaldor has argued, a multiplication of supervision is possible by purchasing more units of supervision or employing them in parallel.² But the task of co-ordination cannot be multiplied in parallel. It is of its essence that it is single.³ Even if the task of co-ordination is exercised by

¹ "The Equilibrium of the Firm," *ECONOMIC JOURNAL*, March 1934, pp 60-76.

² I find Mr Kaldor's division into supervisory and co-ordinating tasks of management somewhat difficult. If supervision is limited to the maintenance of discipline and the clerical tasks of securing that production proceeds in accordance with plan, no difficulty arises. But in practice a great part of the activities, even of the lower grades of management, consists in dealing with the minor crises which occur when production for some reason has failed to proceed strictly in accordance with plan, and involves the making of new decisions which require an act of co-ordination with the decisions of other parts of the management. Supervision without co-ordination will be found only in those cases where production could have proceeded almost equally well without supervision.

³ While it is true (in Mr Urwick's words) that "the supreme co-ordinating authority must rest somewhere and in some form in every organisation," and that in this sense it is of its essence that it is single, yet (again quoting Mr Urwick) "there must be co-ordinating authority at lower levels of the chain of responsibility." The act of co-ordination can in a measure be delegated, but the responsibility for the final achievement of co-ordination must be unique. Professor Knight has said, "In organised activity the *crucial* decision is the selection of

a group, the decision of the group must be the decision also of each member of the group, except so far as a member of it renounces his duties of co-ordination and allows another to exercise them on his behalf. If there is division of labour within the co-ordinating group there is no co-ordination. If the British Cabinet allows the Secretary of State for India to make the Cabinet's decisions with regard to India it is a mutual admiration society and not a co-ordinating body.

Now in what does the task of co-ordination consist? It consists in securing that A's decisions do not conflict with B's decisions, or *vice versa*—in denying to some extent, that is, complete liberty of action to A or to B. It consists further in seeing that both A's and B's actions are properly designed to achieve the end that the whole unit has in view, and that they are both approaching this end by paths appropriate to the existing conditions.

The extent to which co-ordination will at any moment be necessary will depend upon the number and the intensity of the factors which can affect the decisions either of A or B with regard to the best means to achieve their own more limited ends, or which can alter the ultimate objective of the whole unit, or alter the appropriate path of the whole unit to this ultimate objective. In a world in which no decisions had ever to be taken a single decision-taking unit could manage an infinitely large undertaking. The actual size of the undertaking which any given unit can manage will depend upon the frequency, the urgency, and the nature of the decisions to be made. It is impossible, therefore, to discuss optimum units for co-ordination without knowing or assuming the type, the degree, and the frequency of change involved.

Mr Kaldor has argued that, in consequence, "in a full long-period equilibrium (in Marshall's Stationary State) the task of management is reduced to pure 'supervision,' co-ordinating ability "becomes a free good and the technically optimum size of the individual firm becomes infinite (or indeterminate)"¹

men to make decisions. Any other sort of decision making or exercise of judgment is automatically reduced to a routine function."

See Urick, *Management of To-morrow*, pp 63-4, Knight, *Risk, Uncertainty and Profit* (London School of Economics Reprint), p 297

¹ See *loc cit*, p 71. Mr Kaldor is here following Knight, *loc cit*, pp 267-8. But even in the decisionless world it is doubtful if we should be right in believing that the optimum unit would be infinite. Unless the output demanded from the industry to which the unit is supposed to belong is also infinite, an approach towards infinite size must mean also for the firm an approach through oligopoly towards monopoly, and the unit is likely, therefore, to have supply curves of factors of production which gradually approach to the conditions of the supply of those factors to the industry. A rising supply curve of any one of the factors will be sufficient to set a limit to the optimum size of the unit.

There is obviously a measure of truth in what Mr Kaldor is here saying. But to secure a decisionless world we must attempt an artificial construction far different from that contemplated by Marshall in his Stationary State. It is not sufficient that "tastes" or "obstacles" shall remain constant. It is necessary that obstacles shall not exist. Even granted perfect foresight the existence of an obstacle needs co-ordinated effort to surmount it. A change of the efficiency of machines, or of the relative efficiency of individuals, or of a crop yield would involve a concerted adaptation to the change. In Mr Kaldor's world there must be neither sun nor rain, neither snow nor frost, neither thunder nor lightning. There must be a steady consumption of raw materials without any exhaustion of their supplies, a steady progress of firms without such progress bringing either experience to the younger or old age to the elder. Men must not die, and therefore if the state is to be stationary they must not be born. There must be no inventions, no discoveries of new materials or of new sources of supply. No machinery must wear out, for it would be impossible to co-ordinate production during its replacement. In Mr Kaldor's long period we shall be not only dead but in Nirvana. And the economics of Nirvana, the study of the principles on which decisions should be made in a decisionless world, is surely the most fruitless of sciences.

Now clearly the degree of unreality of Mr Kaldor's assumptions in what he chooses to regard as long-period equilibrium has nothing to do with the truth of the fundamental issue with which he and I are dealing. Co-ordination is "a dynamic function" in Mr Kaldor's words, or, as I should prefer to put it, a function of the degree of change, since I myself would conceive of certain kinds of change requiring co-ordination even in a stationary state.

But whatever views we may hold about this, in Marshall's biological long-period equilibrium, where growth is equal to decay, co-ordinating decisions are necessary within one firm even if demand from the point of view of the industry is constant, and in such a world it would be necessary to discuss the types of change and decision which predominate, and the most effective scale on which they can be made.

The most important type of change with which an entrepreneur in his function as co-ordinator of adaptation must deal is a change of demand, and we may take this as an example of a disturbing factor. Given a certain change of demand for the product of an industry, the individual firm has two decisions to make: first, the degree of adaptation that is desirable, second, the method of

adaptation Now this distinction immediately confronts us with the essential division of all such decisions Some decisions require the greatest possible knowledge of the detailed operation of the firm itself, others require the greatest possible knowledge of the probable actions of other producers, of the trend of the market for the product or of the supply of one or more factors of production Decisions regarding the degree of adaptation are best made by persons in close touch with the market, even if comparatively remote from production The larger the unit for which these decisions are made, in many respects the more accurately can they be made Decisions regarding the method of adaptation, on the other hand, are made best by persons in intimate touch with the detailed technical problems But any actual decision will in most circumstances be a compromise between these two types of decisions For the degree of adaptation cannot be decided without knowledge of the financial effects of given methods of adaptation, and the method of adaptation, particularly in a multiple plant organisation, cannot be determined independently of the degree

Granted this distinction, we may say that the best scale of management will depend upon the relative importance of accurate knowledge of these two kinds In an industry in which the methods of adaptation are simple, while the problems of the best degree of adaptation are complex, a large unit may often be controlled even more effectively than a small, and granted a scarcity of entrepreneurs of exceptional ability to estimate the trends of the market, it almost certainly will be better controlled In an industry in which the most difficult problems are those of technical methods of adaptation, the unit of management will be more efficient when the scale is small enough for the management to be not too remote ¹

There are some tasks, then, which are best centralised, some which are best decentralised But there would appear to be in practice no unanimity as to which decisions should be centralised and which decentralised Mr Urwick states that in the history of many combines a rhythmic centralisation and decentralisation is to be observed, an excess of the one policy giving way to an excess

¹ The effects of change are not, of course, limited to the structure and amount of management itself Where change is frequent and rapid adaptation is necessary the size of the unit to be adapted is important A battalion takes longer to change direction than a squad It took Ford a year to change over from the Model T to the Model A, whereas Frazer Nash will alter any car to his customer's requirements The technical optimum, adapted to risks and fluctuations, is, as I have shown elsewhere, always a function of the rate of change See *Structure of Competitive Industry*, pp 83 et seq

of the other policy ¹ In many combines, in fact, centralisation extends little further than price fixing and in some cases order distribution They are structurally little different from the less formal types of organisation, such as cartels or profit pools The main unit of co-ordination is the plant, and Mr Kaldor, if I understand him right, would regard the plant as the firm in this case A multiplication of plants here yields no economies except in so far as the central office organisation creates conditions nearer to those of perfect competition as regards the distribution of orders to plants and the closing down of plants Its justification lies not in the realm of costs but of monopoly profits

An important point emerges here The division of labour, and the technical gains which are secured by a larger scale of production are bought at the expense of greater co-ordination If, in an attempt to diminish the degree of centralisation and co-ordination, the unit of production is kept small, the economies of greater technical scale must be forfeited If it is sought to secure the economies of large-scale technical production, the diseconomies of co-ordination must be incurred It is impossible to enjoy simultaneously both the technical gains of large scale and the managerial economies of decentralisation ²

Decisions regarding methods of adaptation, it has been argued, are best made by those nearest at hand and with the greatest knowledge But in practice a certain degree of remoteness is dictated by the needs of large scale for technical purposes and for marketing purposes, as well as for the specialisation of the routine functions of management and design Thus the central problem of management to-day is the facilitation of decisions by persons somewhat remote from the problems which they have to decide Up to a point an individual or a group can make decisions without difficulty They can be themselves in touch with the issues that they are deciding Up to this point in the interests of economy it is at least desirable that entrepreneurs should be occupied But beyond a point the task of decision-making and of co-ordination has to be specially organised

It is of the essence of any organisation that it contains the scalar chain of authority ³ through which orders are transmitted

¹ See L Urwick, *Management of To-morrow*, pp 73-4

² Where firms which were previously engaged in imperfect competition are amalgamated and the conditions of the market are thereby changed, it may be possible through increased specialisation to secure greater technical economies without greater total costs of co-ordination But in conditions of perfect competition the optimum degree of specialisation will already have been achieved Cf Joan Robinson, *Economics of Imperfect Competition*, pp 338-9

³ See Mooney and Reiley, *Onward Industry*, pp 31 et seq The ordinary military, or hierarchical, organisation affords an example of the scalar chain

to the rank and file of the organisation. But such a scalar chain is itself a bad instrument for the transmission upward of knowledge and of information. It must in almost every case be supplemented by a staff organisation, whether the staff be formally recognised as such or not. The task of the staff is threefold: first to acquire the knowledge necessary to co-ordination and the creation of a central plan of administration, second to interpret the plan of action to those in the scalar chain of authority whose task it is to carry the plan into effect, third to discover at the earliest moment defects in the plan, or divergences from the plan and to secure modification of the plan itself or of its method of interpretation.

Within the staff itself a functional division of labour is possible and frequent, and since the staff must work as a unit, within the staff itself is to be found the scalar chain of authority. But the essential purpose of the staff is to provide for the upward passage of the knowledge on which the one supreme co-ordinating authority can base its decisions.

Messrs. Mooney and Reiley have, as we have seen, argued that granted perfect organisation, a perfect scalar system, and a perfect staff system, an infinite unit can be organised. Before attempting to deal with their main arguments something must be said about the examples with which they support their argument. They show that the largest armies have been organised successfully. But the test of successful organisation of an army is that maximum aggregate productivity is achieved. An army is profitably enlarged and organised up to the point where the marginal net product of the imperfectly organised private is zero. But the test of successful industrial organisation is that maximum average productivity is achieved. An industrial body will be profitably enlarged only up to that point where marginal productivity is equal to average productivity. In the first case the optimum is achieved with heavy increasing costs of co-ordination, in the latter with none or almost none.

Let us now return to the central problem. Can a perfect scalar chain and a perfect staff organise an infinitely large unit without loss of efficiency? The essence of the scalar chain is a hierarchy of persons who beyond a point must know less and less about more and more. The scalar chain can be extended indefinitely without loss of efficiency only on one of two assumptions, first that the necessary knowledge for decisions is very small, second that the maximum amount of co-ordination is achieved at each level in the scale, and the knowledge required for co-ordination at the next higher level need not descend into the lower levels of the scale.

while operative workers increased between 1907 and 1924 only by 10 per cent, administrative, technical and clerical staff increased by some 60 per cent

But the cost of co-ordination is not limited to the cost of the co-ordinator. Those who suffer co-ordination must almost certainly bear further costs. Apart from the relatively insignificant clerical costs, there are the far more important costs which arise from the time spent by valuable executives in conferences, discussions and committees, in the composition of memoranda and the persuasion of others where the author is already persuaded. In addition to all these are the costs which arise from the loss of initiative and the opportunity to secure without reference to higher authority that the right thing is done at the right moment, or from the relative stagnation which tends to emerge where executives lose hope of convincing higher authority of the necessity for change.

It would appear, therefore, that an optimum firm with an upper limit imposed by the difficulties and costs of co-ordination is both logically satisfactory and a necessary hypothesis to explain the existing facts. It cannot be denied that in a situation where an organisation is tested neither by average productivity, as in industry, nor by aggregate productivity, as in war, the organisation may be almost indefinitely large.¹ That the organisation approaches chaos in such conditions is irrelevant. But granted either the test of war or the test of industry, an organisation has an effective limit. Xerxes discovered it in the one case, Thyssen in the other.

But the optimum is not an optimum independent of the environment in which industry must be conducted. It is dependent obviously upon the development of technique both of production and of management. It is dependent on the rate of interest, and the rate of growth of invention and the consequent obsolescence of plant. It is dependent further upon the conditions of the market, that is, upon the rate of growth of demand and the consequent cost of expansion, and upon the probable variations of demand. All this has for some time been recognised. It is impossible, that is, in any case to regard the optimum firm as one would wish to

¹ It has been suggested to me that, in fact, there is in some cases a considerable interval between the minimum size, dictated by technical considerations, and maximum size, dictated by considerations of co-ordination, that over this range costs are approximately constant, and the size of the optimum is therefore within these limits indeterminate. While such a state of affairs would depend obviously upon the technical circumstances of the industry and the early exhaustion of technical and other economies, such statistical verification as I have been able to secure in the case of one or two industries lends support to this view.

regard it, as a size of firm determined independently of demand, and independently of the environment in which the firm must work. But though it is impossible to regard the optimum firm as wholly independent of a given environment, there are obvious objections to regarding it as the firm best adapted to all the circumstances of the existing environment. For if we do this, every firm which is maximising its profits in a given situation is the optimum firm in that situation.¹ If, as is likely, we are concerned with the probable costs of a firm or group of firms in a situation other than the existing one, it is more convenient to regard the optimum firm as being the firm with the lowest long-period average costs of production, given a market of the dimensions and geographical distribution of the present total market for the products of the industry, given the present variability and rate of growth of the market, and given also the present technical and general environment of the firm and of industry in general. That was the sense in which I myself intended to use the phrase. But the concept is admittedly a fragile one, and the degree to which the hypothetical conditions of competition must be modified to admit of a more perfect adaptation to an environment cannot be accurately stated.

Mr Kaldor's article has, I think, helped us to appreciate the extent to which the environment in which it must work determines also the optimum scale of co-ordination, and by so doing has made it even clearer than it was before that the optimum firm and the cost curve of the industry must be dependent in this sense also upon the environment in which the firm and industry are working.² He has shown that the equilibrium economics of the stationary state has no useful lessons or analogies for the economics of a living world, that the study of an economic system abstracting from its environment is a purposeless academic exercise. We can now profitably return to the proper field of economic studies, the study of the adaptation of economic organisations to their environments, and realise that Marshall was, as so often, right when he said that "the Mecca of the economist lies in economic biology rather than in economic dynamics."

AUSTIN ROBINSON

*Sidney Sussex College,
Cambridge*

¹ I think Professor Plant assumed me to attach this meaning to the optimum firm in at least one part of his review of my book in *Economica* (February 1933). Professor Florence, *loc cit*, pp 42-3, would appear on occasion at least to define it thus.

² Cf Shove, *ECONOMIC JOURNAL*, March 1933, p 118
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THE RESERVE BANK OF INDIA

THE object of this paper is to describe the principles of the Reserve Bank of India Act, 1934, which received the assent of the Governor-General on March 6, the Bill having been passed by the Legislative Assembly on December 22, 1933, and by the Council of State on February 16, 1934. It is the most important piece of legislation in the history of Indian banking and, as Sir George Schuster, the retiring Finance Minister, said, the outstanding proposal put before the Legislative Assembly during his tenure of office. The Act is a well-balanced measure which takes advantage of the latest experience of other countries. This experience has been adapted with much skill to the special conditions in India.

The history of the proposal of an apex or Central Bank for India was discussed in the *ECONOMIC JOURNAL* of December 1928. It will be remembered that the proposal was by no means a new one. The Royal Commission on Indian Currency and Finance in its Report, 1926, showed that the evidence of witnesses clearly brought out the necessity of a unity of policy in the control of currency and credit if monetary stability is to be achieved. There are great weaknesses in a system where currency and credit are under separate authorities. Sir Henry Strakosch was a member of the Royal Commission, and his influence may be seen in every page of the Report on a Reserve or Central Bank for India. After the lapse of eight years from the publication of the Royal Commission's Report the Act has become a reality. The delay has, all things considered, been very beneficial. The original Bills have been so modified as to produce a very workable plan. India will now have a centralised banking system under which commercial banks will be able when necessity arises to turn into cash the maximum of their assets without disturbance to general conditions. Memories in India are sometimes short, but the history of joint stock bank failures in the last twenty-five years clearly shows how much will be achieved by rediscounting facilities afforded by a central banking system.

It will be recalled that the first Bill was introduced into the Legislative Assembly on January 25, 1927. It was entitled "A

Bill to establish a gold standard currency for British India and constitute a Reserve Bank of India." It embodied in the main the recommendations of the Royal Commission of 1926. It provided for a shareholders' bank free from political influence and a directorate of fifteen members, nine of whom were to be elected by shareholders. The Select Committee altered the Bill very fundamentally by suggesting that the Bank should be a State Bank, the Government of India subscribing all the capital, and the clause prohibiting members of the Central and Local Legislatures from becoming Directors was deleted. This involved a departure from the principles on which the original Bill had been framed and the change was unacceptable to the authorities. On September 8, 1927, Sir Basil Blackett, the Finance Minister, announced that the Government had decided not to proceed further with the consideration of the Bill during that Session. He proceeded to England on October 29 to discuss with the Secretary of State the details of the plan for a Reserve Bank, and on his return a new Bill was published on January 11, 1928. The President of the Assembly declined to allow the Bill a reading, as he held the former Bill was still before the House. This was considered, as it was hoped to amend the Bill through its passage in the Assembly and Council of State. When, however, Government were defeated by one vote in the Assembly over the inelegitimacy of politicians to be Directors, the discussion on the Bill was adjourned *sine die* on the 10th February, 1928. At this stage the first drops of the thunderstorm of the trade depression occurred and Sir George Schuster succeeded Sir Basil Blackett as Finance Minister. The question of reforms in the Constitution also gave the whole question of a Reserve Bank a new importance. The Government of India in their Despatch dated September 20, 1930, on the Simon Commission's Reform proposals, stated that the formation of a Reserve Bank on sound lines must be a condition precedent to any transfer of financial responsibility from the agents of the British Parliament to a Minister answerable to the Indian Legislature. The Government felt that the statutory obligation of supporting exchange and, therefore, for assuring that adequate remittance can be made to meet all private and public foreign exchange requirements, should not, on grounds of principle, be imposed on Government in the New Constitution.

At this stage an inquiry into banking was undertaken, and this happily had great beneficial results. Inquiries were set on foot in the provinces, and all of the Provincial Committees had begun work by August 1929, except the Punjab Committee,

which began somewhat later. The details of the inquiries were settled by the Central Banking Inquiry Committee, and when these Provincial Committees reported, the Central Committee, with the assistance of a small body of Foreign Banking Experts, set to work, and the Reports of the Central Committee and Foreign Experts were both published in 1931. The Central Committee "consider it to be a matter of supreme importance from the point of view of the development of banking facilities in India, and of her economic advancement generally, that a Central or Reserve Bank should be created at the earliest possible date. The establishment of such a bank would by mobilisation of the banking and currency reserves of India under one authority tend to increase the volume of credit available for trade, industry and agriculture and to mitigate the evils of fluctuating and high charges for the use of such credit caused by seasonal stringency." The Foreign Experts were of opinion that the immediate problem in connection with Indian banking is not a question of expansion but of organisation, consolidation, and co-ordination, and the solution of the main problem was in their opinion a strong, well-equipped and influential Reserve Bank.

The discussions in London at the Round Table Conferences on the new Constitution showed that the question of the Reserve Bank was a *sine qua non* of the handing over of responsibility to a Finance Minister answerable to an Indian Legislature. The Paper Currency and Gold Standard Reserves of the Government of India must be entrusted to a Reserve Bank which would be responsible for monetary stability and at the same time would be free from politics. The Federal Structure Sub-Committee of the First Round Table Conference recommended that "with a view to ensuring confidence in the management of Indian credit and currency, efforts should be made to establish on sure foundations and free from any political influence, as early as may be found possible, a Reserve Bank, which will be entrusted with the management of the currency and exchange." In the course of the discussions of the Third Round Table Conference the Secretary of State for India undertook that representative Indian opinion would be consulted in the preparation of proposals for a Reserve Bank. The new Constitution, as outlined in the "White Paper" published in the early part of 1933, assumes that before the first Federal Ministry comes into being a Reserve Bank, free from political influence, will have been set up by Indian legislation and be successfully operating. Some of the conditions required for the successful working of the Bank depend on world economic

conditions The Indian budgetary position must be assured, the existing short-term debt in London and in India must be within proper limits, adequate reserves must be accumulated and India's normal export surplus must have been restored Most of these conditions have been fulfilled The last, however, has still to be achieved In accordance with the undertaking of the Secretary of State a Committee on Indian Reserve Bank Legislation (commonly known as the London Committee) met in London in July last year and submitted a Report The prime purpose of the Report was to facilitate the drafting or rather redrafting of the Reserve Bank Bill The titular chairman of the Committee was the Secretary of State for India, Sir Samuel Hoare, but Sir Reginald Mant, the deputy Chairman, presided over the Committee, which consisted of 23 members, comprising not only leading authorities on the principles and practice of central banking and financial administrators from India and Great Britain, but also leaders of Indian public opinion, drawn from the Legislature, the business community and public life of British India and the Indian States A Bill based on the Report of the Committee was introduced in the Assembly and Council of State in September 1933, and a Joint Select Committee of both Houses under the Chairmanship of Sir George Schuster was appointed The Select Committee did not alter the Bill materially and it was placed before the Assembly in November and passed, as already noted, in December 1933 by the Assembly and by the Council of State in February 1934

II

The Act is divided into four chapters, the first chapter dealing with definitions, characteristic of most if not all Indian Acts, the second with the incorporation, share capital, management and business of the Bank, the third with central banking functions, and the fourth with general provisions relating to the Reserve fund, auditing, returns and kindred questions There are five schedules (1) the areas served by the various share registers, (2) the list of scheduled banks, (3) the provisions to be contained in the agreement between the Reserve Bank and the Imperial Bank of India, (4) the scale of additional dividends payable to shareholders, and (5) the details to be shown in the weekly return The Bank is a shareholders' bank free from any political influence The original share capital is 50 millions of rupees divided into shares of one hundred rupees each, fully paid up Separate registers of shareholders are to be maintained at Bombay, Calcutta,

Delhi, Madras and Rangoon, and a separate issue of shares is to be made in each of the areas served by those registers as defined in the First Schedule, and shares may be transferred from one register to another. No person may be registered as a shareholder in more than one register and he is qualified to be registered in any area where he ordinarily resides or has his principal place of business. A shareholder must be (1) domiciled in India and either an Indian subject of His Majesty or a subject of State in India, (2) a British subject ordinarily resident in India and domiciled in the United Kingdom or in any part of the British Empire the government of which does not discriminate in any way against Indian subjects of His Majesty, or (3) a company registered under the Indian Companies Act, 1913, or a society registered under the Co-operative Societies Act, 1912, or any other law for the time being in force in British India relating to co-operative societies or a scheduled bank, or a corporation or company incorporated by or under an Act of Parliament or any law in force in any part of the British Empire, the government of which does not discriminate in any way against Indian subjects and having a branch in British India. Each shareholder who has been registered for a period of not less than six months will have one vote for every five shares held, but his voting power is subject to a maximum of ten votes. No Director and no member of a Local Board can be a member of the Indian Legislature or of a local legislature unless, within two months of the date of his appointment, nomination or election, he ceases to be such member. No salaried Government official and no salaried official of an Indian State or officer or employee of any bank or director of any bank other than a co-operative bank registered or deemed to be registered under the Co-operative Societies Act, 1912, may be a Director or a member of a Local Board. The Central Board of Directors will consist of a Governor and two Deputy Governors to be appointed by the Governor-General in Council after consideration of the recommendations made by the Board in that behalf, four Directors to be nominated by the Governor-General in Council, eight Directors to be elected by shareholders, two each from the Bombay, Calcutta and Delhi registers and one each from the Madras and Rangoon registers, and one Government official to be nominated by the Governor-General in Council. As regards the four Directors to be nominated by the Governor-General in Council, these are not intended to represent political interests, their purpose is explained in the following extract from the London Committee's report — "In view . . . of the

fact that in the particular circumstances of India election may fail to secure the representation of some important elements in the economic life of the country, such as agricultural interests, we recommend that a minority of the Board should be nominated , it being understood that this power would be exercised to redress any such deficiencies ”

A Deputy Governor and the Government official Director may attend any meeting of the Central Board and take part in its deliberations but may not vote In the case of a Deputy Governor, however, when the Governor himself is absent, a Deputy Governor may vote if authorised in writing by the Governor The Directors, whether elected or nominated, are to hold office for five years except the Governor and Deputy Governors, who hold office for a period not exceeding five years and are eligible for reappointment The Government official Director will hold office during the pleasure of the Governor-General in Council The elected Director or Directors representing an area on the Central Directorate are elected from the members of the Local Board by shareholders in the area holding five or more shares In addition to their function in the election of Directors of the Central Board, the Local Boards have no other duties of an executive nature except such as may be delegated by the Central Board They are, therefore, mainly advisory and will doubtless, as in the case of the discount committees of the Bank of Belgium and the Bank of Japan, play a valuable part in the scrutiny of commercial paper

The Committee on Indian Reserve Bank Legislation recommended that the first appointment of Directors should be made by the Governor-General in Council, suitable arrangements being made for retirement in rotation In regard to the Governor the Committee held that it was essential that this officer should command general confidence not only in India but abroad The majority of the Reserve Bank Committee thought that the Governor-General in his discretion should be the appointing authority when the proposed Indian Constitution Act comes into force The Reserve Bank Act provides that the first constitution of the Central Board will be as follows —The first Governor and the Deputy Governors will be appointed by the Governor-General in Council on his own initiative, and the first eight Directors representing the shareholders on the various registers will be nominated by the Governor-General in Council from the areas served by those registers until successors have been elected on the following plan. “ On the expiry of each successive period of

twelve months after the nomination of Directors, two Directors shall be elected as prescribed until all the Directors so nominated have been replaced

The register in respect of which the election is to be held shall be selected by lot from among the registers still represented by nominated Directors, and for the purposes of such lot the Madras and Rangoon registers shall be treated as if they comprised one register only "

The Bank's offices will be in Bombay, Calcutta, Delhi, Madras and Rangoon, and a branch in London was decided on by the narrow majority of one vote in the Legislative Assembly. Branches or agencies may be established in any other place in India or, with the previous sanction of the Governor-General in Council, elsewhere. The Bank is thus obliged to establish a branch in London, although it is the usual practice of Central Banks to conduct their operations in another country through the agency of the Central Bank in that country. The South African Reserve Bank, for example, has the Bank of England as its agent in London. There is, however, no reason why the London office of the Indian Reserve Bank should not maintain close contact with the Bank of England while at the same time preserving its independence.

The great principle underlying the structure of India's Reserve Bank is its independence in relation to the State in law and in practice. Reserve banks to perform their functions best must possess a certain detachment and independence of the Government. The principle that the new Bank should be free from any political influence was indeed the rock on which the Reserve Bank Bill of 1928 was shipwrecked. "We have the experience," said Mr. Norman, Governor of the Bank of England, in his evidence before the Royal Commission on Indian Currency and Finance, "in Europe that in the case of the banks in which the Government held considerable measure of control, or there has been a limitation on the freedom of the Bank, it has not resulted to the advantage of the community." The Government of India will indeed stand behind the Bank, but it will not influence it except in the discharge of statutory obligations. It may at first sight appear to be a paradox that in order to carry out a wise central banking policy in harmony with the national life, a State Bank under official control is not advisable. Even in countries where the capital of the Bank is held by the State, steps have had to be taken in certain circumstances to render its administration independent of political influences and of the Government. The Reserve Bank in any country is responsible for the stability of

the currency and on this account alone stands in a special relationship with the Government. Its discount policy affects credit, the country's gold reserves and the general purchasing power. Nevertheless, the independence of the Bank must be safeguarded. This has been done in the Indian Act by precluding the State from subscribing to the capital of the Bank, as is the case with the great majority of Central Banks. The Government will have certain powers in regard to the appointment of the Governor and other Directors of the Bank, especially in the case of the first appointments made under the Act. But this is in no way to give the Government power of interference in the administration of the Bank. It is merely to ensure that the Reserve Bank will be in capable hands. In almost all countries the Governor is appointed by the head of the Government, and in a number of instances other members of the Directorate are so appointed. A Reserve Bank is not a Department of State but rather a large public trust, and the greatest possible care must be taken not to allow sectional interests, even banks themselves, to be represented on the Central Board of Directors. For this reason the shareholders cannot be allowed entirely to elect from shareholders the Board. The limitation of voting power to ten votes prevents undue influence on the Board by those holding large blocks of shares. The profits, too, of the shareholders have to be limited, as the Bank must not be conducted primarily from the viewpoint of dividends, and this limitation prevents the Directors from being unduly influenced by this—the return to be paid on the capital of the Bank. A careful balance has been kept between the various influences likely to bear on the management of the Bank—Government and private. If Government had a controlling influence over the Bank there are ways by which powerful interests in India to-day may try to enforce their wishes. We have in the Bank of France between 1923 and 1925 the influence of extraneous forces on banking policy. Between 1923 and 1925 the Bank exceeded the legal limit of the note issue. In 1925 the volume of notes was 43 milliards although the maximum fixed by law in 1920 was 41 milliards. The balance sheets actually hid this fact owing to Government compulsion, and the increased borrowings from the Bank intensified without any shadow of doubt the depreciation of the franc, and it was one of the causes leading up to the financial crisis of 1926. Excessive governmental influence has been sedulously avoided in the Indian Act, since otherwise Reserve Bank questions might at any moment become first-class political issues, and when politics

comes in at the door central banking is apt to fly out at the window

III

Next as to the business of the Bank The Reserve Bank will be essentially the crown of the whole structure of banking in its widest sense It will exercise a general control and supervision of credit and currency conditions Its chief functions will be to act as the note-issuing authority, to control credit in the country's interest, and to maintain the stability of the currency, which is the very foundation of all contractual relations It will act as banker to the Government and to commercial banks Its business will not be to make profits over and above what is required to pay a moderate limited dividend on the capital employed in it, and it will not be a burden on the taxpayer Its aim is not that of the commercial banks which collect deposits and make loans to customers and are essentially profit-making institutions Its great advantage to these banks will be that it will centralise the surplus cash resources of the Indian banking system which can be used in time of need The Bank is definitely prohibited from engaging in trade or otherwise having a direct interest in any commercial, industrial or other undertaking, purchasing its own shares or the shares of any other bank or of any company or granting loans upon the security of any such shares, advancing money on mortgage or otherwise on the security of immovable property or becoming the owner of immovable property except such as is necessary for its own business premises and residences for its officers and servants, making unsecured loans and advances, drawing or accepting bills payable otherwise than on demand, allowing interest on deposits or current accounts It has central banking functions, viz the obligation to be the Government banker and the right to be the sole note-issuing authority in India It must sell sterling "for immediate delivery in London, at a rate not below one shilling and fivepence and forty-nine sixty-fourths of a penny for a rupee," and buy sterling "for immediate delivery in London, at a rate not higher than one shilling and sixpence and three-sixteenths of a penny for a rupee" Every bank in the Second Schedule of the Act must maintain with the Bank a balance which at the close of business on any day must not be less than 5 per cent of the demand liabilities and 2 per cent of the time liabilities A weekly return is to be sent both to the Bank and to the Governor-General in Council, signed by two responsible officers, showing (a) the amounts of its demand and

time liabilities, respectively, in India, (b) the total amount held in India in notes, (c) the amounts held in rupee coin and subsidiary coin respectively, (d) the amounts of advances made and of bills discounted in India, and (e) the balance held at the Bank. In return for this the Reserve Bank will discount the paper of the scheduled bank. I consider this section of the Act to be of the very highest importance to the future of indigenous banking, since the provisions are capable of being used to the advantage of the indigenous bankers up and down the countryside. It is, of course, absolutely essential to the control of credit that scheduled banks should keep an adequate and substantial percentage of their demand and time liabilities with the Reserve Bank, and this is a primary reason why the Reserve Bank is debarred from doing ordinary banking business. The Bank has also extensive powers in open-market transactions, a sphere of reserve banking that has much developed in recent years. The Bank, in short, can, when it is considered necessary for the purpose of regulating credit in the interests of Indian commerce, industry and agriculture, discount paper directly in the open market (*i.e.* paper without the signature of a scheduled bank or a provincial co-operative bank), or the Bank can make loans or advances, "provided that a committee of the Board (of Directors) or the Governor shall not, save in cases of special urgency, authorise action under this section without prior consultation with the Central Board, and that in all cases action so authorised shall be reported to the members of the Central Board forthwith." This proviso makes it clear that although the exercise of these powers should not necessarily be regarded as limited to occasions of so urgent a nature as to justify their description as an emergency, they are nevertheless not to be used for the normal operations of the Bank and should be restricted to special occasions. As in the case of the Commonwealth Bank of Australia, the Issue Department is separated from the Banking Department, the model, of course, being the Bank of England. In the case of the Indian Act, however, the proportional method of holding reserves is followed and not a fixed amount of fiduciary issue. The separation of the issue from the banking functions of the Reserve Bank is open to criticism as it does not show the Bank's liabilities as one comprehensive whole. The assets of the Issue Department must consist of not less than two-fifths of gold coin, gold bullion or sterling securities, provided that the amount of gold shall not at any time be less than 400 millions (40 crores) of rupees in value. The remaining three-fifths may be held in rupee coin, Government

of India rupee securities of any maturity and such bills of exchange and promissory notes payable in British India as are eligible for purchase by the Bank, provided that the rupee securities shall not exceed one-fourth of the total amount of the assets or 500 millions (50 crores) of rupees, whichever amount is greater, or, with the previous sanction of the Governor-General in Council, such amount plus a sum of 100 millions (10 crores) of rupees. Gold is to be valued at its par value, 8 47512 grains of fine gold per rupee, rupee coin at its face value, and securities at the market rate. Sterling securities are balances at the credit of the Issue Department with the Bank of England, bills of exchange bearing two or more signatures and drawn on and payable in the United Kingdom and having a maturity not exceeding ninety days, and Government securities of the United Kingdom maturing within five years. For two years after the Act comes into force such securities may be securities maturing after five years. It is further provided that on the date of the transfer of the note issue to the Bank by the Government of India and of the transfer of the Paper Currency and Gold Standard Reserves, the gold coin and bullion and sterling securities shall not be less than one-half of the whole amount transferred and the amount of rupee coin shall not exceed 500 millions (50 crores) of rupees. Any surplus over this amount will be held by Government in a separate account, and arrangements are made by which the Bank and the Government can keep the rupee assets to 500 millions or one-sixth of the total assets, whichever is the greater. As in the case of many other Reserve Bank charters, a tax is leviable during any period in which, with the previous sanction of the Governor-General, the suspension of assets requirements takes place. The periods are naturally for short periods only—not exceeding thirty days in the first instance, which may be extended from time to time by periods not exceeding fifteen days—and the rate of tax shall be “at the bank rate for the time being in force, with an addition of 1 per cent per annum when such holding exceeds $32\frac{1}{2}$ per cent of the total amount of the assets, and of a further $1\frac{1}{2}$ per cent per annum in respect of every further decrease of $2\frac{1}{2}$ per cent or part of such decrease, provided that the tax shall not in any event be payable at a rate less than 6 per cent per annum.”

In addition to the Central Banking functions just described, the Act carefully prescribes the business which the Bank may transact in regard to accepting deposits without interest, the purchase, sale and rediscount of bills of exchange and promissory notes, making loans and advances, the purchase and sale of

securities, agency business, the borrowing of money, and, "generally, the doing of all such matters and things as may be incidental to or consequential upon the exercise of its powers or the discharge of its duties under this Act" A Reserve Bank should not compete for ordinary banking business with commercial banks, and if it had to pay interest on deposits this would be an additional incentive to make profits and therefore to incur risks which a Reserve Bank should not incur The prohibition of the payment of interest should be viewed in the same light as the limitation of dividends National considerations in a Reserve Bank are all-important and not profits Hence the non-payment of interest has been clearly stated in the Act Deposits may be taken from "the Secretary of State in Council, the Governor-General in Council, Local Governments, States in India, banks and any other persons" The purchase, sale and rediscount of bills of exchange and promissory notes, bearing two or more good signatures, one of which must be that of a scheduled bank, are clearly defined To enable the Bank to discount rupee import bills in the event of such instruments coming into existence in the future, the Bank may purchase, sell and rediscount bills of exchange and promissory notes drawn on and payable in India if the bills arise out of *bona fide* commercial or trade transactions, have two good signatures, one of which is that of a scheduled bank and mature within ninety days from the date of purchase or discount The maturity of bills and promissory notes for financing seasonal agricultural operations or the marketing of crops may, as in the United States Federal Reserve system, be nine months from the date of purchase by the Bank Agricultural trading is longer than that of industry, and for this reason the charters of Hungary, Chile, and South Africa also provide for an extended maturity in such cases Bills and promissory notes drawn and payable in India and bearing the signature of a scheduled bank, if issued or drawn for the holding or trading in securities of the Government of India or a Local Government or such securities of States in India as may be specified by the Governor-General in Council on the recommendation of the Central Board, have a currency of ninety days

Among the other principal items of business may be mentioned—(1) the purchase and sale of sterling to scheduled banks, (2) the purchase, sale and rediscount of bills of exchange drawn in or on the United Kingdom with a maturity of not more than ninety days, (3) the making of loans and advances to States in India, local authorities, scheduled banks and provincial

co-operative banks repayable on demand or on the expiry of fixed periods not exceeding ninety days against stocks, funds and securities (other than immovable property) in which a trustee is authorised to invest, gold or silver or documents of title to these, bills of exchange and promissory notes as are eligible for purchase or rediscount by the Bank, promissory notes of any scheduled bank or a provincial co-operative bank supported by documents of title to goods and *bona fide* commercial, trade or agricultural transactions, (4) the making of advances to the Governor-General in Council and to such Local Governments as have the custody and management of their own provincial revenues, the advances being repayable not later than three months from the date of the making of the advance, (5) the purchase and sale of Government securities of the United Kingdom with a maturity within ten years from the date of purchase, and of the Government of India and of a Local Government of any maturity or of a local authority in British India or of such Indian States as the Governor in Council on the recommendation of the Central Board may specify. The amount of securities held in the Banking Department must be so regulated that the total value must not exceed the aggregate amount of the share capital of the Bank, the Reserve Bank and three-fifths of the Banking Department in respect of deposits, the value of securities maturing after one year must not exceed the aggregate of the share capital, the Reserve Fund, and two-fifths of the Banking Department in respect of deposits, and the value of securities maturing after ten years must not exceed the aggregate of the share capital, the Reserve Fund and one-fifth of the liabilities of the Banking Department in respect of deposits. These limits are to be regarded as maxima and in ordinary circumstances the Bank will keep its security holdings as liquid as possible and will operate well below these limits, (6) the borrowing of money for a period not exceeding one month and the giving of security for such borrowed funds. No money may be borrowed from any person in India other than a scheduled bank and only from a Reserve Bank abroad. It is also provided that the total borrowings in India must not exceed at any time the amount of the share capital of the Bank.

IV

It remains to discuss very briefly the general provisions of the Act and also the Schedules. These provisions are concerned chiefly with the Reserve Fund, the dividend on the capital, the

exemption of the Bank from income and super-tax, auditors, returns and reports, and the creation of an agricultural credit department, the last of which was put forward in the Legislative Assembly and accepted on behalf of the Government by Sir George Schuster. The Reserve Fund is to be created by the transfer to the Bank of rupee securities of the value of 50 million rupees (5 crores) from the Governor-General in Council. The Reserve Fund will, therefore, be the equivalent of the paid-up capital of the Bank. The maintenance of adequate Reserves is essential in the case of a Reserve Bank as it gives protection against the effects of any depreciation in the value of assets and promotes confidence in the solidity of the banking system. The charters of many Central Banks give special attention to the accumulation of Reserve funds after the payment of an adequate return on the shareholders' capital. As in the U.S. Federal Reserve system, a 5 per cent cumulative dividend is provided for and the maximum that can be paid is of the order of 6 per cent. "After making provision for bad and doubtful debts, depreciation in assets, contributions to staff and superannuation funds, and such other contingencies as are usually provided for by bankers, and after payment out of the net annual profits of a cumulative dividend at such rate not exceeding 5 per cent per annum on the Share capital as the Governor-General in Council may fix at the time of the issue of shares, a portion of the surplus shall be allocated to the payment of an additional dividend to the shareholders calculated on the scale set forth in the Fourth Schedule, and the balance of the surplus shall be paid to the Governor-General in Council provided that if at any time the Reserve Fund is less than the share capital, not less than 50 lakhs of rupees (Rs 5,000,000) of the surplus, or the whole of the surplus if less than that amount, shall be allocated to the Reserve Fund." It is clear that, while the Government may appear to be handing over a profitable enterprise to private shareholders, the latter are not really presented with the profits of the paper currency and the gold standard reserves, since they subscribe the Bank's capital, and the Act fixes 6 per cent as the maximum dividend thereon, and since all surplus profits will still go to Government. The 1928 Bill fixed the maximum at 7 per cent. In fixing this maximum dividend under the Act two things were considered, viz (1) the yield on Government long-term securities, and (2) the necessity of attracting the small investor and thus securing a wide distribution of the shares of the Bank. The rate of fixed (minimum) dividend will be decided on at the time of issue of the

shares, and must depend to some extent at least on the rate on comparable securities at that time. The South African Reserve Bank was the prototype of the Indian Reserve Bank in regard to this, and indeed also but to a less extent the U S Federal Reserve system. The South African Reserve Bank provides for a cumulative dividend of 6 per cent which may reach the maximum of 10 per cent. Any surplus under the South African Act that remains in any year after the Reserve equals the paid-up capital of the Bank and after providing a 10 per cent dividend to the shareholders, goes to the Government. In addition to the appointment of not less than two auditors the Act provides that the Governor-General in Council may at any time appoint the Auditor-General or such auditors as he thinks fit to examine and report upon the accounts of the Bank. The Bank must create a special Agricultural Credit Department, the functions of which are merely (1) to maintain an expert staff to study all questions of agricultural credit and to be available for consultation by the Government, Local Governments, provincial co-operative banks and other banking organisations, (2) to co-ordinate the operations of the Bank in connection with agricultural credit and its relations with provincial co-operative banks and any other banks or organisations engaged in agricultural credit. The educative effect of the Banking Inquiry 1929-1931, perhaps its greatest value, is seen in the clause that within three years the Bank must submit a report to the Governor-General in Council on the extension of the provisions of the Act relating to scheduled banks to persons and firms, not being scheduled banks, engaged in British India in banking and on the improvement of the machinery for dealing with agricultural finance and methods for effecting a closer connection between agricultural enterprise and the operations of the Bank. By far the most valuable part of the Banking Inquiry investigations were those relating to rural finance, especially the problem of rural indebtedness and the establishment of a link between agricultural industry and the money market, between the farmer requiring credit and the capitalist seeking investment. The clauses of the Indian Reserve Bank Act on scheduled banks contain germs which may affect in no small degree the whole future of Indian banking and indeed the prosperity of Indian agriculture.

It can hardly be expected that the existing banks in India will welcome universally the creation of the Reserve Bank. But in a few years' time the Reserve Bank should be able to dissipate any feeling of suspicion or lack of understanding in regard to central banking functions. Its privileged position as the Govern-

ment banker and the bankers' banker, its exclusive right of note issue, its use of the Government balances, its ability to compete on rare occasions should the necessity arise with the commercial banks in order to control the credit situation, are bound to engender in the early stages some uncertainty on the part of the commercial banks. If, as is certain, men of first-rate ability in central banking are appointed to the key positions of the Bank, any feeling of antagonism is bound to disappear. The transfer of the Government balances from the Imperial Bank of India to the Reserve Bank will be done in such a way as to avoid any disturbance to the banking machinery of the country. The Agreement between the Reserve Bank and the Imperial Bank provided in the Act and the recent amending Act of the Imperial Bank of India are not in any way ungenerous to the Imperial Bank, which will now be freed from the necessary restrictions imposed when it held the Government balances. The Agreement is for fifteen years, and the Imperial Bank is to be the sole agent of the Reserve Bank at all places in British India where there is a branch of the Imperial Bank in existence at the time when the Reserve Bank Act, 1934, comes into operation and where there is no branch of the banking department of the Reserve Bank. The Reserve Bank is to pay to the Imperial Bank for the first ten years a Commission calculated at one-sixteenth of 1 per cent on the first Rs 2500 million (Rs 250 crores) and one thirty-second of 1 per cent on the remainder of the total of the receipts and disbursements dealt with annually on account of Government by the Imperial Bank of India. At the end of ten years these payments to the Imperial Bank will be revised and for the next five years will be determined by auditors on the actual cost to the Imperial Bank. This arrangement will be revised at the end of every five years so long as the Agreement remains in force. In addition to this and in consideration of the Imperial Bank of India's having branches not less in number than those existing at the commencement of the Act, the Reserve Bank must pay to the Imperial Bank annually for the first five years of the fifteen-year period nine lakhs of rupees (£67,500), six lakhs (£45,000) for the next five years, and four lakhs (£30,000) for the next five. The Imperial Bank, on the other hand, cannot without the approval of the Reserve Bank of India, open any branch in substitution for a branch existing at the time when the Act comes into force without the approval of the Reserve Bank.

It is not yet possible to fix a date when the Act will come into force. In recent years the credit of India has stood high and her reserves are so strong that, as Sir George Schuster pointed out in

the Legislative Assembly on September 11, 1933, the Bank could be started in accordance with the proportion of the Assets fixed by the Act immediately. Treasury balances in London are strong and, moreover, since the gold was valued at the old parity there is a hidden reserve of unrealised profit of 220 million rupees (Rs 22 crores) on the gold holding at market prices. It may be safely said that in the last two years the Indian budgetary position, so far as the Central budget is concerned, has been sounder than that of almost any other country. The existing short-term debt, both in India and in London, has been substantially reduced, adequate reserves have been accumulated, but the normal export surplus in merchandise has not yet been achieved. All things considered, conditions are far more favourable to the establishment of the Reserve Bank than hitherto.

The passing of the Reserve Bank Act is, as we have seen, the most important piece of legislation in the history of Indian banking. It paves the way for the new Constitution. It has been accepted in all the Constitutional discussions and established by the experience of all countries, that when public finance rests with a Ministry responsible to an elected Legislature and liable to frequent change, the control of a country's credit and currency should be with an independent authority acting with continuity. This authority is a Reserve Bank independent of political control. In the new Constitution financial responsibility will be transferred, and the White Paper has rightly made it a condition of such transfer that an independent Reserve Bank should be in actual operation before the Constitution comes into being.

The scheme for a Reserve Bank has been brought to a successful issue only after many vicissitudes extending over the past seven or eight years. In 1927 in particular there was a real danger that the Reserve Bank car might after all be shunted on to political lines. This would have been fatal to the whole scheme. Happily the symptoms of weakness that tended to compromise on this vital issue were successfully resisted. Subsequently the main danger has been the possibility of a deterioration in the Indian financial position during the unhappy period of the world crisis which began in 1929. This has been averted by the consistent policy of the Government, which during a period covering six budgets has always stood for budget balance and strict control of capital expenditure.

G. FINDLAY SHIRRAS

*Gujarat College
University of Bombay*

REVIEWS

The Art of Central Banking By R G HAWTREY (Longmans, Green & Co Pp xii + 464 18s)

MR HAWTREY has named this volume *The Art of Central Banking*, as the essay with this title is the most substantial contribution in the book. The other essays comprise a closely reasoned criticism of Mr Keynes's *Treatise on Money*, and cover such topics as French monetary policy up to 1932, the American Stock Exchange boom and its collapse in 1929, International short-term investment and Remedies for unemployment. While the range of subjects discussed is thus extensive, the book has a unity based on the central theme of the monetary question as the dominant factor in the trade cycle. An advantage of bringing together in one volume a survey of post-war developments in this country, France and the United States is that the action of the monetary authorities in each country is studied in relation to the guiding motive of the work, and the practical conception of the duties of a Central Bank is tested in the light of experience.

In this review it is proposed to concentrate primarily on the principal essay, "The Art of Central Banking". Mr Hawtreys begins with an historical survey explaining how the Bank of England in the course of the last century gradually assumed the responsibilities attaching to "the lender of last resort". The story of the familiar crises of 1847, 1857 and 1866 is passed in review and the services performed by Goschen and Bagehot in establishing the responsibilities of the Bank of England as the ultimate bulwark of the London money market are recognised. The more important part of the essay deals, however, with the events that followed the report of the Cunliffe Committee of 1918 which provided the basis of the re-establishment of the gold standard in this country in 1925. The art of Central Banking, in the sense conceived by Mr Hawtreys, is elucidated by an exposition of the proceedings of the Central Banks of the leading monetary centres after the War, associated with criticism, sometimes in trenchant terms, of the errors that they are deemed to have made. Mr Hawtreys view, summed up in his own language, is that "the result has been not merely that the world has been insufficiently prepared to deal with the new problems of Central Banking which have arisen in the

years since the War, but that it has failed even to attain the standard of wisdom and foresight that prevailed in the nineteenth century " These words contain a serious charge, and if the charge is justified the gravity of the economic crisis under which the world as a whole has laboured for the last five years certainly demands a restatement of Central Banking theory and the application of new methods In his essay on Mr Keynes's treatise on money Mr Hawtrey states, " I regard the credit cycle as essentially a periodical fluctuation in the world value of gold," that is to say, the essential factor in the trade cycle is the price factor, seeing that prices under an international gold standard are ultimately expressed in terms of gold The fundamental fact in a period of trade depression is the disequilibrium between prices and costs, in which Mr Hawtrey stresses the predominant importance of wages, between the prices of agricultural and industrial products and between incomes and debts The Central Bank, by its regulation of credit, is in a position to enlarge or contract consumers' income (the total of all incomes expressed in terms of money) and consumers' outlay (the total of all disbursements out of income), and the failure to regulate consumers' income and outlay correctly leads, on the side of excess, to inflation and, on the side of deficiency, to deflation The monetary authorities " must endeavour so to adjust their measures that the resultant enlargement or compression of the consumers' income and outlay will be just what is required " Mr Hawtrey thus presents the trade cycle as a problem in monetary science and the recent havoc as the measure of the world's failure to solve the problem

Where has the failure been ? It is fashionable in these days to abuse the financial authorities for the failure of the monetary system to harmonise debts with the capacity to pay or consumption with production, but few writers have made the effort, which is such a conspicuous feature of Mr Hawtrey's work, to bring the criticism home in concrete manner Though Mr Hawtrey's criticisms of Central bankers are vigorous, he is, as is well known from his other works, in no sense allied to those who consider that an international gold standard cannot be worked so as to ensure the full employment of national resources in men and material in so far as these matters lie within the sphere of monetary policy, for while stressing the monetary aspect of the economic problem Mr Hawtrey would doubtless readily recognise the serious complications that may be introduced by misguided political or commercial policies He regards the results of the Genoa Conference in 1922 as marking an epoch in the evolution of the art of Central

Banking "in that for the first time they establish the responsibility of the Central Banks for the value of gold" He emphasises the point that for a substantial period, ending in 1929, the Federal Reserve authorities successfully handled the internal credit situation in a manner that avoided any serious fluctuations in the price level When symptoms of price decline and depression showed themselves, "measures of credit relaxation quickly dispelled them" Mr Hawtrey considers that the death of Governor Benjamin Strong in the autumn of 1928 proved a disaster to the world in that his policy of price regulation was abandoned There must, of course, remain the moot question as to how Governor Strong would have handled the later stages of the Stock Exchange boom in New York which was the prelude to the collapse in the autumn of 1929 In his essay on "Speculation in Wall Street" Mr Hawtrey indicates that Central Banks have only a limited concern with speculation as a possible cause of inflation, and it is to be presumed that his test of inflation would be an undue rise in prices associated with wage troubles and industrial discontent From this point of view Mr Hawtrey argues that there was no inflation of this kind discernible in the United States in 1929 The Federal Reserve Board's restrictive actions had sufficed and they were not otherwise concerned with the speculation bubble, which was in any case bound to burst sooner or later The late Mr Paul Warburg, however, took the view that the incipient boom should have been scotched at an earlier stage by credit restriction, and his view on this point may prove of interest in connection with other developments which are taking place at the present time Mr Hawtrey acquits the Federal Reserve Banks of having done anything improper up to July 1929, and goes so far as to say that even up to September 1929 "the speculative fever was continuing and a relaxation of credit might still have caused inflation" The real gravamen of his charge against the Federal Reserve authorities is that they hesitated to lower rates and relax credit after the crisis of October 1929 had broken out

Mr Hawtrey seeks to appraise French banking policy in regard to the economic crisis The restrictions on the power of the Bank of France to take the initiative in open-market operations naturally do not meet with his approval, and opinion in this country would in general concur The drain of gold to France after the post-war stabilisation of the franc is recognised as having been inconvenient owing to the influence that this had on Central Banking policy in other international centres Mr Hawtrey, however, holds that "while the French absorption

of gold in the period from January 1929 to May 1931 was, in fact, one of the most powerful causes of the world depression, that is only because it was allowed to react to an unnecessary degree upon the monetary policy of other countries "

"While France was to blame for absorbing gold and the United States for not parting with gold, it was through England that the process of credit restriction, by means of which the scarcity of gold brought about the compression of the consumers' income throughout the gold-using world, took effect " Mr Hawtrey is, in fact, at some pains to emphasise the peculiar responsibility of London in the matter of the world crisis and some vigorous shafts are directed at the Bank of England in the process of his argument For example, he criticises keenly the delay in reducing bank rate in 1929-30, when six months elapsed in the process of reducing the rate from $6\frac{1}{2}$ per cent to 3 per cent Again, he criticises the adoption of a restrictive policy in an effort to avert the breakdown of the gold standard in 1931, holding that the only measure which offered any prospect of doing so was a vigorous policy of expansion based on extensive open-market operations

While different views may be taken regarding the duties of Central Banks in the face of a domestic crisis consequent on a Stock Exchange boom, and while opinions will differ to the end of time regarding the degree of responsibility attaching to the various monetary centres for the crisis, readers of this book will be grateful to Mr Hawtrey for his careful exposition of the basic factors on which judgments must be formed and for his precise and stimulating criticisms Sometimes, as for example when he censures the constitution of the Bank of England from the point of view of its competence to handle the credit question, Mr Hawtrey may convey the impression that the theoretic position which he maintains with much forceful argument is inadequately appreciated Some may hold that his analysis of the crisis, in so far as it is a monetary phenomenon, does not lead to a just apportionment of blame as between London and New York, and it might well be urged that London, by its effort to work the gold standard even in difficult times on a relatively small base of gold, was, in fact, treading an enlightened path and exhibiting a valuable example

More recent events must, however, have given Mr Hawtrey firmer ground for hoping that the wreckage of the post-1929 period will not have failed to teach the world some valuable lessons in the art of Central Banking Among the documents produced by the Monetary and Economic Conference in July 1933 is a series of resolutions bearing on the general principles of Central Banking

policy Agreement on these resolutions, of which more may be heard hereafter, was reached by all the Governments represented on the sub-Committee on Technical Monetary Problems except that of the United States of America, which considered discussion of the question premature Space permits the citation of only the most important in this connection of these resolutions

" Since the proper functioning of the gold standard requires in the first place the adoption by each individual Central Bank of a policy designed to maintain a fundamental equilibrium in the balance of payments of its country, the discretion of each Central Bank in regulating the working of the gold standard in its own country should remain unimpaired Central Banks should, however, recognise that in addition to their national task they have also to fulfil a task of international character Their aim should be to co-ordinate the policy pursued in the various centres in order to contribute towards the satisfactory working of the international gold standard system

" Moreover, they should endeavour to adapt their measures of credit regulation, as far as their domestic position permits, to any tendency towards an undue change in the state of general business activity An expansion of general business activity of a kind which clearly cannot be permanently maintained should lead Central Banks to introduce a bias towards credit restriction into the credit policy which they think fit to adopt, having regard to internal conditions in their own countries On the other hand, an undue decline in general business activity in the world at large should lead them to introduce a bias towards relaxation

" In pursung such a policy the Central Banks will have done what is in their power to reduce fluctuations in business activity and thereby also undue fluctuations in the purchasing power of gold "

This passage revives the teaching of the Genoa Conference and might be transcribed as an epilogue to Mr Hawtreys book

CECIL KISCH.

Trade Depression and the Way Out By R G HAWTREY (Longmans, Green & Co London 1933 Pp x + 183 7s 6d)

THIS book is an enlargement of a pamphlet written by Mr Hawtreys, and published, in 1931 It consists mainly of a critical history of monetary developments in the last ten years, there is

also some theoretical exposition and polemic against alternative views. It is written in his most engaging and brilliant style. Mr Hawtrey has a great command of historical narrative. He has a singular power of selecting the essential, and, while not disdaining at times to insert minute detail, he never loses sight of his general purpose, and enables the reader to grasp the historic process as a unity. Moreover, he is incapable of obscurity or of tedium.

The villain of the piece before 1931 is the French legislature, which did not give the Bank of France power to buy securities. It is fair to add that the Bank of France was in no mind to ask for such a power. The consequence was that the rising demand of the French public for means of payment after the depletion due to the inflation culminating in 1926 could only be met by imports of gold. Some blame is also attached to the British authorities for not allowing easier money in the period after 1925. Then after the collapse in November 1929, "it was the tardy and half-hearted treatment of this situation, not only in America but in England, that was responsible for the depression getting beyond control" (p. 106). The Federal Reserve Banks did indeed purchase securities, but desisted in July 1930. It is arguable that not only was this cessation wrong, as Mr Hawtrey holds, but also that the scale of purchases was altogether inadequate, considering that the ebb of recession was much more ominous than it had been when the Banks had taken no less vigorous measures in 1924 and 1927. The defeatist spirit of the Federal Reserve authorities in those early months is perhaps the most heart-breaking feature of the whole story.

In the realm of theory Mr Hawtrey is not engaged in this volume in erecting an elaborate analytical structure. He is concerned to state a case in its broad outline and to wage constant warfare with the hosts of follies and fallacies that beset monetary theory. On the whole he is admirably successful. In one place he does not appear to apprehend quite clearly the case of his opponents. While we may agree that "in 1929 there was no inflation in the United States" (p. 35)—or at least insufficient inflation to have serious repercussions—in his treatment of Professor Robbins' views (p. 122) he seems not to appreciate that it is an alleged large decline of costs there not matched by an equivalent decline of prices that is supposed to have produced a quasi-inflationary situation in 1929.

An unswerving champion of monetary stabilisation, Mr Hawtrey is sceptical of the desirability of large-scale public works. He thinks that relentless persistence by the Central Bank in the pur-

chase of securities would do the trick. He may be right. Ultimately accumulated balances will find their way into something or other. But in the process the joint stock banks might be driven into a position in which the item of investments far exceeded all their other assets. Is it clear that such a position would be without dangers? On the other hand, he thinks that the sums involved in public works schemes are too small. "A programme of £100,000,000 a year sounds impressive, but it is only 3 per cent of the national income" (p. 137). But why only £100,000,000 a year? Why this fine careless rapture, this heroic abandon in matters for which the Bank of England would be responsible, and this niggardly caution when the responsibility belongs to the government? And what of the secondary expenditure entailed by such a programme? The argument that schemes put under way might outlast the need for reflation can be met, for when the need for reflation is at an end, the residue of the schemes can be financed out of taxation.

Mr. Hawtrey thinks of inflationary borrowing in terms of the creation of bank credit. This seems to suggest that he has not yet accepted Mr. Keynes' view that borrowing from the public for the purpose of real investment may have an inflationary effect by diverting the flow of money that goes to cover entrepreneurs' losses in a depression.

The sections of his argument which seem least convincing are those concerned with competitive exchange depreciation. That this is an absurd bogey we may well agree. But to the view that each country can by depreciating its currency send up its own price level without damaging the external price level it is less easy to subscribe. Imagine the world divided into two areas, A and B. The authorities of A arrange that the value of its currency in terms of B's is reduced. The necessary consequence is a realignment of prices, such that international goods have the same price in A and B, taking the new rate of exchange into account. But in virtue of what is it certain that it is the A prices which will move? Is it not equally likely that B prices will fall to the new appropriate level? It is still more probable that A prices will rise somewhat and B prices fall somewhat. While refusing to regard competitive exchange depreciation as a menace, we need not rush forward and hail it as a panacea. Mr. Hawtrey's views on this subject are no doubt responsible for what might be taken to be a gap in his narrative on p. 59. He describes the American reflation of 1932 and its stimulating effect. "But the revival did not last." He offers no clear explanation. May it not be that the set-back was

due to the renewed weakness of sterling at that time and the depressing effect exerted by the fall of sterling on world gold prices, and therefore on dollar prices ?

R F HARROD

The Rate of Interest in a Progressive State By J E MEADE
(Macmillan 1933 Pp viii + 115 7s 6d)

MR MEADE has published the results of his work on dynamic equilibrium of the economic system while they are still tentative and uncertain, foregoing the temptation to impress the world with a more polished achievement in the belief that it is "justifiable, and indeed desirable, that economists should publish their thoughts on a problem on which a great number of other economists are working, even if their work is admittedly very incomplete, for advance can most efficiently and quickly be made by such sharing of ideas and by co-operative work" For this reason the book consists rather of a collection of separate pieces of analysis than of a single systematic argument Nevertheless, it represents a considerable feat of bold and independent thinking Mr Meade is a follower of Mr Keynes, but he has an original contribution to make, and his work is not like so much that has recently appeared, in which the jargon of "savings and investment" is used to cover a complete misapprehension of Mr Keynes' point of view Breaking away from the vain circle of controversy and misunderstanding, Mr Meade has struck out on a path of his own The same impression of intellectual boldness is conveyed by his method of presentation The analysis is set out in the barest possible style, without allusions to other writers (save for two short notes of criticism, one on Mr Keynes and one on Dr von Hayek, each of which appears to be just), without historical illustrations, without reference to current problems, without figures of speech, without any concession to the human weakness of the reader His heroic austerity is at times carried to such extremes as almost to suggest a parody of itself, nevertheless, it cannot fail to provoke admiration

The opening theme is a system of Neutral Money—a monetary system which "simply interprets the decisions of individuals without, by its own action or inaction, making the effects of such decisions different from what they would have been in a non-monetary economy" (p 11) A neutral system, in Mr Meade's view, would be one in which (with a given population) the total of money incomes of the community is kept constant Under

this system, he holds, a spontaneous change in current consumption will lead to an equivalent opposite change in investment, and *vice versa*. It ensures, for instance, that a desire to increase saving will be prevented from stultifying itself by reducing incomes, and will be implemented by an appropriate increase in the value of the output of capital goods. But he fails to establish the validity of this concept. The action of each individual alters the situation for his neighbours. The decision of some individuals to spend less will reduce the incomes of others, and so incline them to save less. It is impossible to give any unique meaning to the "decisions of individuals" taken collectively. Mr Meade states that "any decision on the part of the economy that more shall be spent on consumption goods is synonymous with a decision that exactly so much less shall be spent per period on Net Investment" (p. 13). Why so? Might it not equally well be interpreted (in the absence of full employment, which is not postulated) as a decision to increase total output? It appears that Mr Meade's economy would be condemned to continue indefinitely with whatever amount of unemployment happened to obtain when the "neutral" policy was first introduced. That is, if money wages are constant. And in face of a change of money wages the policy of "neutrality" would completely break down. By what method are the banking authorities to ensure that the total of money incomes shall remain constant when wages fall? And by what stretch of imagination could such a violent interference with the distribution of real income, if it were carried out, be regarded as a policy of neutrality?

The whole notion of "neutral money"—based upon the conception of disturbances to some kind of natural equilibrium, which are due to purely monetary causes and would be eliminated if the banking system could be made to behave perfectly—is impregnated with a curious kind of mysticism which regards "monetary influences" as in some sense arbitrary or harmful, and which proceeds to confuse "monetary influences" in the sense of "influences due to decisions of the monetary authorities" with "influences which we are accustomed to discuss under the heading of monetary theory". The fact that the manner in which I spend my income affects the incomes of my neighbours is "monetary" in the second sense, but not in the first, and there appears to be no virtue, either as an analytical device or as a guide to practical policy, in a system designed to eliminate "monetary influences" of this sort.

But Mr Meade shows only the faintest symptoms of infection

with monetary mysticism. The main part of his book is completely free from it, and his analysis is conducted throughout with a rigour and thoroughness which inspire great confidence in the reader. Much of his argument is independent of the notion of "neutral money," and much which he has set out in connection with it can be detached from it and given other applications. The chapters on the Long- and Short-term Rates of Interest, and on the Structure of the Productive System are particularly useful from this point of view. But perhaps his most original contribution is to introduce the notion of the supply curve of capital goods. This is one of those simple innovations which are seen to be indispensable as soon as they have been made, so that we immediately begin to wonder how we have managed so long without them. It is this kind of seemingly obvious improvement which reflects the most credit on its discoverer, for ingenious and far-fetched refinements upon the existing apparatus of thought are much easier to produce than the simplest fundamental changes in its structure.

The last few pages are devoted to showing that the type of equilibrium required by Mr Meade's neutral system is not automatically attained, but must be the result of conscious policy of the banking authorities. He shows that even in the most favourable case, where the whole of, say, a decrease in expenditure on consumption goods is devoted to the purchase of securities, there is no guarantee that a corresponding increase in current investment will take place, in the absence of a deliberate effort to reduce the rate of interest. The increased demand for securities will lead, on Mr Meade's assumptions, to a rise in their price (which is equivalent to a fall in the rate of interest), but this rise will tempt some of the holders of securities to sell, since the relative advantages of holding wealth in the form of securities and in the form of cash are now altered in favour of cash. Thus, although an increase in saving is likely to lead, in the first instance, to *some* fall in the rate of interest, it cannot lead to a fall sufficient to induce new investment equal to the whole of the new demand for securities, for part of the new demand for securities will be met by old securities changing hands. And if an increase in investment equivalent to the decrease in consumption is not immediately induced, the vicious circle of slump conditions will immediately start to revolve.

But Mr Meade is not for the most part concerned with the causes of disequilibrium. His main intention is to discuss "the conditions of dynamic equilibrium as a necessary preliminary

to a study of disequilibrium," in the conviction "that economists must make a much more intensive study of the monetary conditions of dynamic equilibrium before the theory of trade fluctuations and disequilibrium can be much further advanced" (p vii). Most of the discussion of monetary problems is conducted at the very frontier of immediate problems, and is therefore carried on in terms of short-period analysis. Mr Meade has retired to a half-way house between the short and the long period. In my opinion the retreat towards a discussion of equilibrium conditions must be carried still further. The argument of his own Chapter IV shows that in the kind of long-period equilibrium appropriate to the ordinary theory of value no investment is taking place, and it is clearly necessary to go behind Mr Meade's line of retreat and to explore the still more remote territory of the stationary state. But his failure to do so is no reproach. Even when we are progressing backwards it is necessary to go step by step, and Mr Meade has now reached a point from which the next step will not be difficult to take.

JOAN ROBINSON

The Portuguese Bank Note Case By Sir CECIL KISCH, K C I E ,
C B (London Macmillan & Co , Ltd 1932 Pp 280
10s 6d)

THIS book is both good reading and of special interest for economists.

The story of the creation, issue and recall of the 209,718 Vasco da Gama notes of 500 escudos each (equivalent at the then prevailing rate of exchange to £1,092,281) is unique in the history of note frauds, by reason both of the magnitude of the operation and of the ingenuity with which it was carried out. The ring-leader was Senor Alves Reis, the Managing Director of the Banco Angola e Metropole. It is not clear to what extent his associates and assistants possessed guilty knowledge or were merely his dupes. In December 1924 his agent, Mr K. Marang Van Ysselveere of Messrs Marang & Collignon, The Hague, approached Sir William Waterlow of Messrs Waterlow & Sons, Ltd with three documents, namely —

(1) A forged document purporting to be between the Government of Angola and Senor Reis and to entrust the latter with the supply of notes of the Bank of Portugal of "the new Angola issue with currency in the Metropolis and in the Province of Angola."

(2) A forged document purporting to be between the Bank of Portugal and the Government of Angola and to authorise the latter, and Senor Reis on behalf of the latter, to arrange for the printing of notes of the Bank of Portugal of a specified kind and up to a specified amount

(3) A Power of Attorney from Senor Reis authorising Messrs Marang & Collignon to act for him in the matter

How, on the strength of these documents, supported by forged letters purporting to be from the Governor of the Bank of Portugal and to authorise the use of the plates from which Messrs Waterlow had already supplied Vasco da Gama notes for the Bank of Portugal, the firm was induced to print off more of these notes and deliver them to Mr Marang Van Ysselveere, how the spurious notes were put into circulation in Portugal partly by individual agents of Senor Reis, but largely by the Banco Angola e Metropole, how the crime was brought to light by the discovery at Oporto on the evening of Saturday, December 5th, 1925, of four identical pairs of notes, how the Bank of Portugal, acting with promptitude and prudence in order to maintain public confidence in the currency, at once called in all Vasco da Gama notes, good and bad, giving in exchange for them other notes of a different design, how the swindlers were apprehended, the Banco Angola was wound up, and an action commenced by the Bank of Portugal against Messrs Waterlow—all this is told in the first part of the book and in a most entertaining manner. The atmosphere of this part of the book is at times reminiscent of detective fiction.

The second part of the book reproduces, without comment, the substance of the judgment of the three tribunals in London which dealt with the case between the Bank and the printers. The Bank claimed, in the first place, that in printing and delivering the spurious notes without the Bank's authority, the firm committed a breach of contract, secondly that this breach of contract obliged the Bank to issue notes to the value of 104,859,000 escudos without receiving anything of value in exchange, and thirdly that it was entitled to recover this sum together with the cost of the genuine notes rendered valueless (less the amount recovered from the liquidation of the Banco Angola) by way of damages from Messrs Waterlow.

On the first claim it was found that there had been breach of contract through negligence, but in circumstances so extraordinary that there was no reflection on the firm's honour or good faith. Nor did the Bank have much difficulty in establishing the

second claim It is around the third claim that the interest of this case chiefly centres, since it gave rise to an extraordinary difference of opinion between the learned Judges

The majority in substance held that in the ordinary course of business the Bank would not have parted with notes to the face value of 104,859,000 escudos without receiving in exchange assets possessing a market value of 104,859,000 escudos (*e g* gold, bills, securities), that in this case it was obliged to part with them without receiving anything in exchange except spurious notes, and that the Bank *ipso facto* lost 104,859,000 escudos, so that its third claim was good On this basis judgment was entered against Messrs Waterlow for £610,392

Three, however, out of the nine Judges who heard the case took a radically different view They approached the question from the angle of the Bank's Profit and Loss Account Had the Bank succeeded in showing any injury to its profit-making capacity as the result of the events? Had it shown any loss except the cost (£8922) of replacing the notes issued in exchange for the Vasco da Gama notes, good and bad? The three Judges found the answers to these questions to be in the negative, pointing out that the notes, being inconvertible, involved the Bank in no obligation to the holder which could not be satisfied by the issue of a piece of paper In their view the Bank was entitled to recover only £8922

Here was a remarkable divergence To the majority of the learned Judges it seemed incredible that in parting with notes to the value of about 105 million escudos the Bank could have lost practically nothing To the minority it seemed equally incredible that the loss could have amounted to a sum representing nearly eight times the Bank's capital Sir Cecil Kisch, as the author of a standard work on Central Banks, is well qualified to say a last word on the puzzle This he does in the third and final portion of the book, in which he examines the question of the financial loss sustained by the Bank of Portugal from the economic standpoint, with admirable lucidity, with a wealth of argument, from every angle Not the least valuable part of this analysis is the light which it casts *en passant* on the operations of Central Banks, a subject which has been shrouded in too much obscurity and in which economic students have suffered from a dearth of good literature It would be a pity to spoil this part of the book for the reader by attempting more than a very brief, and therefore necessarily inadequate, indication of the author's conclusions, which are to the following effect

The Bank had certainly a trifling loss amounting to the cost of replacement (£8922) when it replaced the Vasco da Gama issue. If it sustained any further loss, it was the consequence, not of the replacement, but of the reactions on the Bank of the inflation resulting from the putting into circulation of the spurious notes throughout 1925. The Bank was not obliged by circumstances arising out of either the law or its statutes or the policy imposed upon it by the Government to use its own resources for the purpose either of cancelling the additional issue or of providing a normal asset against it, nor in fact did the Bank do so. The Bank did not therefore incur loss on this account. So far as the Bank's earnings were derived from its commercial issue, they depended on how many notes it could keep in circulation against interest-earning assets. This depended on its monetary policy. During 1925, 1926, and 1927 the Bank kept the external value of the escudo fairly constant, and in this period the inflation of 1925 may have prevented it from keeping in circulation as many notes as it would otherwise have succeeded in doing, and may therefore have caused some reduction in the Bank's earnings. The loss on this account cannot be estimated precisely, but it was nothing approaching £610,392, nor was the Bank entitled as a matter of law to recover it since it tendered no evidence on this point. In 1928 the position was transformed by a fall in the external value of the escudo, which permitted the Bank to put out many more notes than before and obliterated any further losses to the Bank from the inflation of 1925. The main damage from the events of 1925 fell, not upon the Bank of Portugal, but upon the escudo-holding public.

The business of a Bank of Issue is of an altogether exceptional character. The Courts required more assistance than they in fact received in elucidating its principles and technicalities. It is believed that it is now widely recognised that the final judgment cannot be reconciled with the economic facts.

G. D. ROSELING

What Everybody Wants to Know about Money. By nine economists from Oxford. Planned and edited by G. D. H. COLE (London: Victor Gollancz, Ltd. 1933. Pp. 544. 5s.)

THE editing of a popular volume on a controversial subject with a large team of contributors is no easy task, but Mr. Cole has achieved considerable success in this book. Intended primarily for the general reader, the treatment of the various subjects lacks uniformity, and some of the chapters, though interesting to the

economist, are scarcely within the grasp of "the man in the street" Nevertheless, a large part of the book will be useful to the layman, and it should also be valuable as a text-book for students

The volume lacks co-ordinated development and there is appreciable overlapping Much of the matter is descriptive, but many controversial points are raised and socialist solutions are usually proposed The discussion of these questions is, however, stimulating, and the socialist tendency does not obtrude itself sufficiently to make the volume unsatisfactory for non-socialist readers seeking information The book does not aim at originality, but the writers usefully bring together information on monetary systems and current monetary problems which has not hitherto been available in one relatively elementary volume

In the first two chapters Mr Cole describes the various kinds of money, the functions of banks, the Quantity Theory, the alternatives of "automatic" and "managed" monetary systems, and reviews the monetary factor in the world crisis He is of opinion that the Quantity Theory, though in a sense valid, is always in danger of being a truism inapplicable because its elements are difficult to measure Monetary management is advocated even though it is recognised that many mistakes will be made Mr Cole considers that during depression an issue of more money will bring unused productive resources back into play, and he therefore favours reflation accompanied by measures to prevent speculative excesses and to insure, *e g*, by a policy of higher wages, that consumers' incomes shall rise sufficiently to buy the increased output at higher prices In the long period in a country in which prices and costs are in equilibrium and productive resources fully used Mr Cole favours a policy of allowing prices to fall as productivity increases, thus offering the best hope of avoiding monetary disturbances of economic equilibrium Prices, however, should not fall to the full extent of the increase in productivity, the balance being preserved by a deliberate policy of raising wages, and also, where necessary, by using the instrument of taxation

Mr Harrod in his chapter on Currency and Central Banking expresses preference for the British fixed fiduciary note issue with 100 percent gold backing for additional notes to the legal minimum percentage gold reserve, but thinks a maximum note issue without a specific amount of gold backing would be better still He believes that a country off gold can, by making the value of its money fall in terms of gold during a period of falling world prices, mitigate the repercussion of world depression He supports international co-operation for revival of demand by increased capital output or

unbalanced Government expenditure In practice, however, international co-operation has proved inadequate and each country endeavours to spend little while hoping to benefit from the recovery programmes of other countries

In a descriptive and critical chapter on Commercial Banks and Credit Mr Radice argues in favour of State control of the quantity and direction of credit He claims that central control of the British Joint Stock Banks is necessary if the needs of industry as a whole are to be met Foreign Trade and the Exchanges are treated by Mr Vallance, who criticises "mercantilist" opposition to imports, and gives an interesting classification of countries which are mature creditors, immature creditors, mature debtors and immature borrowers He also examines the financial crisis of 1931 from the angle of the foreign exchanges, discusses the dangers of currency warfare, and argues that a radical writing down of foreign obligations will be necessary if exchange stability is to be ensured

Systems for the investment of capital, including underwriting, issuing houses, Government issues, the Stock Exchange and investment trusts, are reviewed by Mr Mitchison He considers that individual investors have little chance in the long run in the investment market as now organised, and have to pay for a whole system of financial parasites Provision for the needs of industry at home and control over British overseas issues have been inadequate Capital and investment systems should make proper use of the savings of the community and not be "the instruments for bankers' profits, bankers' control or industrial power that they seem now to be" He therefore proposes banking control, and a National Investment Board to plan investment in the national interest in accordance with planned economy

Mr Durbin's chapter on Money and Prices is of interest to economists, but it is unlikely that the general reader will follow all the underlying implications of the argument Mr Durbin favours a monetary system under which "the *general level of money incomes* should be stabilised so that prices fall as productivity increases, but only in the same proportion as efficiency increases" This would be intermediate between the systems of price stability and of stability in the effective quantity of money In a world economy he favours a number of separate constant income systems, the price and trade relations between which would be maintained by slowly fluctuating exchange rates rather than by the gold standard, though he admits that some reduction of world trade would result In discussing price changes it is not always clear whether long-period trends or cyclical movements are under con-

sideration The treatment of stability in the quantity of money spent is somewhat artificial in the absence of allowance for changes in the velocity of circulation Mr Durbin also argues that it would be practically impossible to restrict credit to a constant total of effective money, but fails to indicate that many of the same difficulties would be encountered in adjusting credit policy so as to insure the operation of his own proposals These comments apply also to several other chapters

"Four Monetary Heretics" are criticised by Mr Gaitskell, the "victims" selected being Major Douglas, Professor Soddy, Silvio Gesell and Robert Eisler Though their analyses and proposals for reform are regarded as being fundamentally erroneous and some of them are shown to be guilty of ambiguity, tribute is paid to the value of certain of their ideas Mr Colin Clark writes on Investment, Savings, and Public Finance He claims that in Great Britain at the present time investment falls short of savings by approximately £300,000,000 a year and thinks that the closing of this gap would represent employment for a million and a half more workers He favours a big programme of public works, a forward wage policy which should keep pace with technical progress, and increased expenditure on social services, and he seems to hanker after an unbalanced budget

Mr Hargreaves deals with debts, including the effects of inflation and deflation upon indebtedness The international debt problem is considered to be of much greater importance than national debts, and it is argued that the relief which would result from a rise in prices would not give a complete solution, readjustment of international debts and control of capital movements seem to provide the only ultimate solution

Mr Cole resumes the argument in a chapter on the Socialisation of Banking, which he advocates mainly because of its importance in industrial planning and control Central Banks and deposit banks must be brought under control at an early stage in the transition to socialism, ultimately the bill market and acceptance houses would be brought into the controlled system A National Investment Board co-ordinated with the banking system would undertake long-term investment, and the Insurance Companies would be socialised, with a State guarantee to policy-holders The Central Bank would be conducted by a publicly owned corporation administered by persons appointed on grounds of competence, matters of high policy would be under Government control

J HENRY RICHARDSON

Essays on Management By J STAFFORD, M A
(London. P S King & Son, Ltd 1933 Pp. x + 230
7s. 6d)

THIS volume contains three essays, the second of which has already been published in *The Manchester School*. The first essay, called "Income and Banking Policy," is mainly concerned with hoarding and its counteraction by the banking system. Mr Stafford develops algebraically an ingenious argument whose main weakness is, I think, that it assumes the period of production to be no greater than the period of circulation of money as income. Nevertheless, the artificiality of Mr Stafford's assumptions reinforces his main conclusion (pp 47-48), which is that constructions designed to measure the benefit to income, and still more to employment, of a given injection of credit, rest upon the most doubtful foundations. The whole argument confirms one's impression that current calculations of the quantitative effect of public works expenditure, particularly when no definite period of time is specified for the reactions to take effect, are worth a great deal less than has usually been claimed for them. The essay concludes with a sensible discussion of the relations between savings deposits and securities.

The second essay is entitled "The Relation of Banking Technique to Economic Equilibria," and consists of an inquiry as to how far the ordinary motives—a desire for profits coupled with a desire for liquidity—are likely to cause the commercial banks to distribute their resources between different classes of asset in the optimum proportions from the social point of view. Mr Stafford concludes, for example, that when a fall in the internal price level becomes necessary for external reasons, it may be desirable that the banks should diminish the ratio of their advances to their more liquid assets beyond the point of maximum profit to themselves. Finally, he remarks that the customary relation between rates on different classes of asset will by no means necessarily ensure equi-marginal returns.

The third essay, on "Central Banking Problems," is perhaps the least satisfying of the three. Here Mr Stafford is mainly pre-occupied with the possibility of insulating a country on the gold standard from the effects of external disturbances of a temporary nature. A large part of the essay is accordingly taken up with a discussion of what Professor Mises calls *kleine Mittel*—including tariffs, the control of foreign investment, equalisation funds, and even periodic revaluation. All this is topical enough, but, as Mr Stafford himself is driven to admit, there can be no real justifica-

tion for measures of this kind as long as it is impossible in practice to distinguish between the temporary and the permanent among price level disturbances originating abroad

Mr Stafford's essays are interesting, thoughtful, and in most places extremely sensible. His English suffers from a certain tendency to involution, which makes it not quite as easy to read as it might be

HAROLD BARGER

University College, London

A Critique of the Gold Standard By H. L. PUXLEY (London: Allen and Unwin, 1933. Pp. 272. 10s. 6d.)

The Sterling-Dollar-Franc Tangle By PAUL EINZIG (London: Kegan Paul, 1933. Pp. xii + 207. 7s. 6d.)

FOR a straightforward account of the events leading up to the collapse of the gold standard as a world institution, the first five chapters of Mr Puxley's book may be recommended, while Chapters VII and IX form in many ways an able presentation of the case for a general return to that standard. His discussion of the prerequisites for such a return follows common-sense lines, though his proposals for an international Central Bank might be called ambitious. The most serious weakness of the book, however, lies in Chapter VI, where he nowhere does justice to the arguments which can be advanced against any form of international standard. Mr Puxley does not seem to have heard of any other goal for internal currency management than price stability. If in 1925-9 the United States had chosen to stabilise bank debits, or money wages, or even incomes in general, history might have turned out very differently. Nor does it follow that because the Reserve System had lost control of the credit situation in 1931-2, it could not have kept that control if previously it had interpreted stability otherwise than in terms of a constant commodity price level.

In this book Dr Einzig maintains his already well-established reputation for amusing, if somewhat sensational, financial journalism. He deals here mainly with the Economic Conference of last year, and in its way his contrast between the American, French and British points of view is extremely well done. His story of the Keynes-MacDonald luncheon (p. 112) is especially amusing.

HAROLD BARGER

University College, London

Lasting Prosperity By A G MCGREGOR (London Sir Isaac Pitman & Sons, Ltd 1934 Pp xiv + 201)

A Business Man's View of the World Crisis By L POTTER (London Williams and Norgate, Ltd 1934 Pp 151 3s 6d)

MR "POTTER," speaking as "the unknown business man," gives us a plain account of how he would restore prosperity to a distracted world. The evils which beset us are psychological in their origin. The entrepreneur has suffered a series of shocks which have sapped his morale and undermined his confidence, and without the entrepreneur nothing moves. It is true that in this country credit has been restored to a remarkable degree, but enthusiasm for the conversion of the War Loan has raised no corresponding enthusiasm in the business world. There has been an enormous expansion of borrowing facilities, but very little borrowing.

To restore the confidence of the entrepreneur and so start the wheels once more, Mr Potter recommends the raising of wholesale prices and a line of action which will keep prices stable once they have been sufficiently raised. To this end he would break finally with gold, establish a managed currency and, in the initial stages of reconstruction, encourage and assist private enterprise by means of government guarantees. He begs that we shall not make a bogey of government intervention, and would seem to imply that a Conservative Government might justifiably steal a little Labour thunder and so avert a really destructive storm later on. He is all for planning, and recommends the establishment of an Industrial Board with a constitution and powers similar to those of the Bank of England.

Exactly how the planning is to proceed, and how the arrangements are to be carried out, Mr Potter does not feel competent to decide. He would no more think of designing the details than of erecting his own electrical plant. But he is convinced that it can be successfully done if experts are put on the job, and he only asks that practical men and not academic theorists shall be entrusted with it.

Mr McGregor too is of the opinion that gold is the villain of the piece, and he also looks to the Government for a rational control of the situation, although his government control is something quite different from Mr Potter's desired intervention. He too holds that the raising of wholesale prices and the subsequent keeping of a stable price level is the only way to salvation. But he is quite sure that he knows exactly how it can be done.

He is by occupation an engineer, "accustomed to dealing with intricate problems," and society is for him an affair of strains and stresses capable of exact adjustment by a skilful hand. We must in the first place get a true balance between the power to produce and the power to consume, and this we can achieve by fixing prices at a level where all the goods and services produced will be consumed, and all labour and capital will be comfortably employed. Since cost of production consists almost entirely of wages, purchasing power depends on the wage level, and all we need to secure the requisite balance is an intelligent control of salaries and wages. When, for instance, prices show any tendency to sag, instead of resorting to wage cuts, which aggravate the evil, we should raise wage and salary levels by government decree. Higher wages will cause an immediate increase of demand, and prices will at once recover. Conversely, if prices show a tendency to rise, we must lower salaries and wages, and by the consequent diminution of demand bring back prices to their normal level.

On the consequences of entangling the national currency with gold, on the futility of tariffs, and the shortsightedness of a policy which encourages the export of goods that a low wage level will not allow our own population to consume, Mr McGregor has many excellent things to say. He shows how internal price regulation cannot succeed so long as export and import are left in private hands, consequently he would prohibit the export of capital, and would have the financing of all foreign trade pass through government agency. In effect the Treasury would pay exporters for goods exported and would receive the value of goods imported from the importers. An international Clearing Association would provide an ideal method of international exchange. There would be no more speculation in foreign exchange and the major causes of war would disappear.

There is nothing very novel either in Mr McGregor's views on the best organisation of bank credit or in his proposal to regulate foreign trade by government agency. Similar suggestions have been made by more orthodox economists, and as long ago as January 1932 the London Chamber of Commerce put forward a scheme for the abolition of private dealings in foreign exchange on lines almost identical with Mr McGregor's proposals. The originality of his treatise lies in his method of stabilising prices by raising wages on a falling market, and lowering them on a rising market. He has no doubt of the feasibility of his scheme, and feels sure that employers and employed need only have it

explained to appreciate the wisdom of the plan. It is here that the psychologist will probably part company with the engineer

H. REYNARD

Escape from Stagnation By G. U. PAPI (P. S. King & Son
Pp 156 5s)

THIS book makes surprising and stimulating reading for an English economist, because in it Professor Papi succeeds in denying the only propositions which meet with any general approval in this country on the subject of cyclical fluctuations.

First, he denies that the costing activities of a number of competing firms lead towards any long-period equilibrium even in the absence of monetary changes, and he makes a courageous attempt to build up a theory of general fluctuation upon the development of processes taking place entirely within the isolated production unit.

This leads him to his second point of divergence from accepted views. He denies that the Trade Cycle is a "monetary phenomenon" in the sense that it is caused by changes in the volume of effective money.

The story begins in Chapter II with a mysterious *deus ex machina* called a "favourable event," which is big enough and general enough to cause an upward movement in productive activity over the greater part of the industrial system. This general increase in investment can be and often is financed out of the idle stocks of money already held by producers and is subsequently maintained out of savings drawn from the "profits" emerging in the self-financed expansion of MV . That is to say, an increase in the volume of effective money may be wholly due to upward movements of Transaction Velocity according to Professor Papi. Some doctrine of this type would not be unacceptable except for the unfortunate fact that the nature of this essential "favourable event" is not very specifically described, and absolutely no attempt is made to show why such a "favourable event" should *necessarily* be generated during the period of Trade Cycle depression. Consequently there is no causal sequence in Professor Papi's analysis at this point, and he, together with certain other important economists, remains content to explain the upward turn of the cycle by simply saying that it actually occurs.

But the real point of surprise and dispute in the book appears in Chapter III, when Professor Papi analyses the results of the self-financed increase in investment. In the first period of this investment prices move up more rapidly than costs (p. 17), for the very

surprising reason that there is a limited number of the factors of production available for each particular product (p 19) Not only would this condition, if it exists, seem to be a reason why costs should rise more rapidly than if there were a larger supply of available resources, but the condition itself is directly contrary to the assumption that there is general unemployment at the bottom of a depression Be that as it may, most economists would be willing to concede Professor Papi's point that costs rise less rapidly than prices in the early stages of recovery, although they would attribute this tendency to quite different reasons But, according to Professor Papi, after the first impulse to investment has begun, the induced rise in output leads to a progressive disequilibrium in the cost position (p 22) That is to say, costs rise more rapidly than prices during the whole period of recovery until they overtake prices at the time of crisis and so lead inevitably to depression Now Professor Papi gives a very strange reason for this relative rise in costs It is not due to the general monetary inflation which is taking place, nor to the rise in the prices of non-specific factors in certain stages of production in the way that Professor Hayek suggests, *but is simply due to mistakes in cost accounting on the part of individual producers* They continuously under-estimate costs, and over-estimate prices Consequently they realise smaller and smaller profits and finally make absolute losses Professor Papi's justification for assuming the universality and inevitability of this fundamental biased error on the part of producers wholly escapes me He repudiates with contempt the suggestion that the bias is psychological (pp 19-20), and he is at great pains to deny that it is caused by an expansion in the supply of money (Chapter II *passim*) In Chapter III we merely get a long account of the *difficulties*, the *complexities*, and the *arbitrarinesses* of cost and price calculations, but no reasons whatever for a bias in one direction, nor do the later chapters provide them This essential point remains the prime mystery of the book

Given the argument of Chapter III, the rest follows naturally—the crisis (Chapter IV) is due to the final appearance of the net losses arising from inaccurate costing and which cannot be staved off indefinitely by further borrowing or restricted output The Banks (Chapter V) merely accentuate and do not create this fundamental tendency to over-estimate prices and under-estimate costs The facts, according to Chapter VI, bear out the general argument of the book Other people (Chapter VII) are wrong because they neglect this fundamental disharmony, and finally (in Chapter VIII) the only permanent cure for the depression is to be

found in a reduction of costs by the downward revision of wages, the restoration of profits, and the utilisation of all technical inventions. A final solution to the problem is only to be arrived at when the provision of knowledge and statistical forecasting removes the vital error in the estimating of costs. The economic institutions of a Corporative State are the most suitable medium for providing this essential information.

But of any further proof that producers must always over-estimate prices and under-estimate costs, all at the same time, relentlessly, without psychological communication and apart from monetary change, Professor Papi gives no sign. His assumptions may be correct, but I cannot feel that his present book explains in the very least why they are.

E F M DURBIN

London School of Economics

The Price Policies of German Public Utility Undertakings By
H E BATSON (Oxford University Press Pp 224 12s 6d)

IN this study of the management and tariffs of the water, gas, electricity and tramway undertakings of twenty-eight German cities, Mr Batson seeks to leave "the facts to speak for themselves," but cannot resist the temptation to bring in a little theory. The result is that the reader is often conscious of a superficial treatment of the general theory underlying the costs and price characteristics of public utilities, without being altogether satisfied that there is always a counterbalancing deep analysis of the particular facts under survey. Mr Batson anticipates the first part of this criticism and puts us under some constraint by stating in his preface that he hopes "soon to publish discussions of some of these controverted questions." Apart from this major division of treatment the book also suffers generally from a rather unfortunate arrangement whereby such important matters as load and capacity factors (and why not diversity factor also?) are dealt with under water-supply characteristics, the very service of the four under consideration to which they are least applicable.

Considered as a purely factual approach the book provides much new and necessary information as to the tariff structures and organisation of German public utilities and should be of considerable value for comparative purposes. There are, however, two points on which more detailed and concise information would be desirable. First there is the competition between gas and electricity services and the effect which it may have on the respective price policies, especially as in twenty out of the twenty-eight German cities both undertakings are owned by the municipality.

The point is only briefly touched upon, and as to the extent of this competition we have largely to be content with quotations from two chairmen at Gas Company meetings, which are notoriously optimistic and which, in any case, relate to English conditions

Secondly, there is the nature and the extent of the central and local legal control of the undertakings. Surely to classify an industry as a public utility implies that the legal aspect assumes the utmost importance, for, as Mr Batson himself says, "the regulation of public utilities is chiefly a matter of price control." While there is some general mention of this aspect there are many points at which we are left wondering as to how far the facts and conclusions are only fully explainable by reference to the legal position. A vital principle of approach is involved in this criticism. Perhaps Mr Batson is solely concerned with the economic aspect of public utility operation, if so, the question arises whether this is possible in a study of this nature. Admittedly in discussions of abstract theory neither law nor politics have a place but in a survey made of the actual workings of an institution these aspects are usually of considerable importance. It is the difference between the study of banking theory and the Bank of England. In his final chapter Mr Batson rightly draws attention to the lack of a systematic body of thought on the economic aspects of public utilities. In so far, however, as this involves studies of a realistic nature, the lack will only be remedied by a *rapprochement* between the economist and the lawyer, that is, if American experience can be taken as any criterion.

D N CHESTER

*Economics Research Section,
University of Manchester*

National Recovery Measures in the United States International Labour Office *Studies and Reports*, Series B, No 19 (Geneva, Pp 224 3s 6d)

The A B C of the N R A By C DEARING, P T HOMAN, L L LORWIN, and L S LYON (Washington The Brookings Institution Pp 185 \$1 50)

Our Economic Revolution By A B ADAMS (University of Oklahoma Press Pp 196 \$1 50)

Price Control Devices in N R A Codes By G TERBORGH (Washington The Brookings Institution Pp 45 50 cents)

Recovery and Common Sense By O. M W SPRAGUE (The Bodley Head Pp 96 3s 6d)

THESE publications provide between them a full account of the Recovery Programme of the United States, and the last of

them offers a lucid and incisive judgment on the relations between the different parts of that programme

The International Labour Office furnishes the text of the legislative measures and of the industrial codes, which is an invaluable work of reference. This is amplified in the second publication, which gives a free and most readable commentary on the texts, supplying also notes on the economic issues and background, the legal issues, the nature of the administrative organisation, the code-making process, and the measures for the administration and enforcement of the codes. Mr Terborgh's monograph on price control devices has a very special interest in its account of provisions for the fixing of minimum prices or mark-ups, for its second chapter is of the nature of an administrative interpretation of the economic idea of the "representative" cost. The codes are classified so as to show how in different cases this has been understood. The minima are to be, in different codes, "fair and reasonable," or equal to the "lowest reasonable cost of production," or equal to the cost of the "lowest-cost representative firm," or "compensatory," or equal to the "weighted average cost of production", while mark-ups, in two cases, are to equal the "modal" cost of handling and selling. But the chapters on provisions against selling below individual costs, and on open-price provisions, are an important account of the problem of economic competition.

Mr Adams' volume has a definite point of view, which may be expressed as either the consumers' purchasing-power argument, or as the long-period view of the Recovery. He holds that it will not be possible to terminate the control which has been imposed on business, but that the government, without destroying fair enterprise, must retain the power to secure equilibrium between investment and the wage-policies on which the support of investment, if it is to be regular, must depend. The thread of this argument runs through a very clear description of the crisis. He does not think that the public works policy can be a permanent solution, here he foresees difficulties similar to those noted by Dr Sprague.

In short, crisp paragraphs, Dr Sprague explains how he came to differ from the official policy. He thinks that the depression is not mainly due to monetary causes, and that the outlet is not mainly through monetary policies. The kind of rise of prices which is desirable is to be obtained from the side of industrial demand, and this is to be encouraged by keeping down, relatively to other prices, the prices of those supplies for which the demand

is most elastic. A programme of house-building seems to him to offer such an outlet at present, if it is not obstructed by wrong wage and price policies in the industries which furnish the requisites. This policy, of the pursuit of the most sensitive consumers' demand, may be what Dr Stamp, in his Preface, describes as "old paths steadfastly pursued". Dr Sprague argues that past recoveries have depended on finding such sensitive demands in one quarter or another, and I think it is true that in England the recovery of enterprise has, since 1860, preceded that of prices. A policy of public works, Dr Sprague holds, must both be ready to give way to the private revival of business, and must not obstruct that by excessive wage policies. As regards monetary policy, he holds that the depreciation of the dollar could only substantially affect foreign trade commodities, which were not a large enough part of the American market, and that, on other grounds, it might even have deflationary reactions. Both it and devaluation have uncertain effects when the gold standard is not abandoned because of over-valuation of the currency, and when there is no scarcity of currency at the time. "The attempt to inflate in a period of depression is an uncharted sea". At such a time, as I understand him, immediate results are to be sought in the stimulation, by suitable price policy, of demand for credit resources which are not deficient, and the private demand is more continuous than that which public works create. He is willing to grant some possible efficacy to "a nice combination of traditional monetary practice with some dollar depreciation, the more considerable use of silver, and even perhaps moderate additional issues of Government paper money" (p. 28). But he places the emphasis elsewhere for immediate results. In a concluding chapter he outlines a monetary policy, based on an improved international gold standard, recognising its defects and imposing a better banking practice to meet any possible scarcity of gold, or tendency to hoard it. This monograph is hard doctrine against recovery by fiat money, wages, or prices, but a community of "miserable sinners" (p. 37) must expect that

D. H. MACGREGOR

The New Survey of London Life and Labour Volumes VI and VII : Survey of Social Conditions II The Western Area and Western Area Maps (London · P. S. King & Son, Ltd. 1934. Pp. xvi + 468 and six maps. 7s. 6d. net each.)

"THE relations between the poverty conditions of 1889 and 1929 may be expressed by saying that, if the conditions of life

and labour found by Charles Booth in the London of 1889 had continued to prevail, the total number of persons in poverty in the Survey Area in 1929 would have been upwards of a million and a half instead of less than half a million "

Thus the Director of the Survey sums up the position in London as a whole in another of the admirable Introductions which have been a feature of the New Survey volumes, and this confirms the information previously published in regard to the Eastern Area taken alone. But Sir Hubert Llewellyn Smith is careful to emphasise, as in the earlier volume, that the final impression is one of hope tempered by anxiety—hope, because of the real reduction in poverty and the undoubted rise in physical and economic well-being, anxiety, that, even in 1929, so many are still "living below a poverty line fixed according to the low standards of a past generation." Moreover, the advances have not come "without a conscious and sustained effort on the part of the community," and "any relaxation of efforts might not only mean the arrest of progress, but the loss of the ground already gained."

The present volumes "continue and complete the survey of social conditions in London," which corresponds to the Poverty Series in Booth's parent inquiry. As before, the method of inquiry has been a double one, containing the intensive House Sample and the extensive Street Survey, under the control respectively of Professor Bowley and the Director, and, as was the case in the Eastern Area, the results of the two inquiries show a high measure of correspondence. Thus, for London as a whole, the percentage decline in poverty is given as 69 by the Street Survey and 71 by the House Sample.

The arrangement now adopted is the same as that used in dealing with the Eastern Areas. The two main inquiries are followed by a series of Special Studies (Part III) and by Borough Summaries (Part IV). The chief additional matter in Volume VI consists of the analysing of the results for the whole of the Survey Area, whilst it was not found desirable to repeat the detailed description of the methods of the House Sample and Street Survey. Hence the two volumes are largely complementary and should be studied together. The Western Area, in fact, is far larger than what is ordinarily known as West London. It includes boroughs like Finsbury and Southwark, economically resembling the poorer areas of the East and South-East, and this tends to bring the proportion of poverty in the whole Western Area nearer to that of the Eastern.

“Probably the first impression made by the figures will be one of surprise, not that the West is richer than the East, but that the difference in the percentages of poverty in the two areas is not greater” The final calculations give 7·2 per cent in poverty in the Western, and 10·7 per cent in the Eastern Area. For the whole Survey Area the percentage is 8·7. The comparison with Booth’s inquiry, based on families with children of school age only, shows a reduction of the percentage of poverty from 30·7 in 1889 to 9·5 in 1929.

The main causes of poverty are much the same in the two areas. In fact, after allowing for the higher percentage of poverty in the East, the general results of the inquiries in the two areas correspond fairly closely. In particular, the reduction in total poverty has been accompanied throughout London by a wider dispersion of the poverty that remains, and by the reduction in the number, though not yet entire elimination, of those “congested patches of poverty” which “very frequently tend to degradation and foster the slum habit of life, and have an important bearing on overcrowding, slum clearance and rehousing, as well as on the problem of mental deficiency.” The decline in the importance of low wage rates, as a cause of poverty, and the increasing influence of unemployment are once more emphasised, and it is estimated that the percentage of the working classes actually in poverty is nearly double what it would be “when all the earners in the family are in full employment.”

Special studies in Part III largely break new ground, though Mr Arthur Llewellyn Smith’s comprehensive treatment of the London Housing Problem may be regarded as continuing and completing the earlier survey of Overcrowding. The remaining studies deal with the Migration of Population (Dr Hare and Mr Michaels), Jewish Life and Labour in East London (Miss Henrietta Adler), Household Economy and Cookery in relation to Poverty (Miss Livingstone) and Mental Deficiency in relation to Poverty, by the Director of the Survey. All of them throw light on the more imponderable elements in the situation, which are least capable of statistical measurement.

Certain influences, operating in both directions, may make it desirable to modify the conclusions drawn from the statistical comparison with the conditions of 1889. Unemployment has already been referred to, and its increasing importance as a cause of poverty tends in some ways to increase distress. As regards the housing shortage, a special analysis of the House Sample suggests that poverty directly due to high rents and the

"pinching" of house room to keep above the poverty line are not pronounced. But there are other serious consequences. "Many families in London, far above the poverty line, cannot use their surplus purchasing power to satisfy their minimum needs for suitable and healthy housing, because there is no suitable accommodation available."

Other influences, however, tend to make the position as compared with 1889 more favourable than the statistical results suggest. Poverty depends not only on the amount of resources but upon the way they are used. Thus, waste, ignorance or lack of proper equipment can prove an important cause of Secondary Poverty. Here Miss Livingstone's sympathetic study suggests considerable improvement since the Booth inquiry. Knowledge of household economy has improved, though hardly in proportion to the expenditure incurred. Lack of adequate cooking utensils, again, has been largely removed, thanks mainly to cheapness and variety of supplies. The Director sums up that defects in household economy are "intimately bound up with straitened economic circumstances." Thus they are likely to be reduced by improvements in standards of living. The position is least satisfactory in regard to the provision of water and facilities for cooking, and this is brought out also especially in regard to the "undivided" tenement house by Mr. Llewellyn Smith's admirable and complete survey of the London Housing Problem.

The paper on Migration shows that "the stream to the centre is now inferior to the outward current," and the immigration is changing its character. Formerly it was mainly from the rural areas, but this "has become progressively of less volume and of less moment to the life and labour of London as conditions have been transformed by the great rise in public health, while the progress of mechanisation makes urban industry less dependent on country bone and sinew." The present influx is mainly urban, from the more depressed areas, attracted by the relative prosperity of London. The outward movement is largely a short distance one to the outer areas of London, following industries migrating to, or establishing themselves in, such areas, particularly to the North and West. Again, Miss Adler's survey of Jewish Life and Labour brings out how the old difficulties due to concentration in limited areas and a small number of trades have been largely overcome by a dispersion, which is both industrial and geographical.

The Maps (Volume VII) are similar in character and scale to those published for the Eastern Area (Volume IV), but number

one less, as the Map on Overcrowding in Volume IV dealt with the whole Survey Area. Otherwise the arrangement is the same, with five Maps illustrating poverty and economic conditions in the different sections of the Area, along with a small key map. Streets and sections of streets were denominated by colours which indicated the predominant grades of the inhabitants. A mixture of grades was illustrated by stripes of a different colour from that of the chief grade, and the presence of a degraded or criminal element by black or a black stripe. The Maps provide an admirable companion to the descriptive volume.

N B DEARLE

The Logic of Industrial Organisation By PROFESSOR P SARGANT
FLORENCE (Kegan Paul Pp 280 10s 6d net)

IT is easy for Professor Florence to justify the chief premise upon which this book is based—namely, that in modern industry the large-scale unit is normally the most efficient. The author is careful to warn his readers that efficiency as measured “by the relation between return (or productivity) and cost” is not the sole criterion of industrial organisation, but for him, writing as an economist, this is the principal test in any discussion of the logic of industrial organisation. As might be expected of Professor Florence, the broader problem of industrial welfare is by no means neglected. The book contains many suggestions for promoting human welfare in industry, but the author’s main problem is how to promote a more rapid growth of large-scale production with its attendant increase in efficiency.

Belief in the superior efficiency of large-scale organisation is based upon the three principles of bulk transactions, massed reserves and multiples. This is old wine in new bottles, but with an eye to the difficulties of the inexperienced and elementary student, the author is at pains to demonstrate the validity of his fundamental premise. Having done so partly with the aid of simple statistical examples, he proceeds to contrast his own logic with “the illogic of actual operation.” He finds this “illogic” mainly in (a) the bewildering variety of products demanded by the consumer and produced by individual plants, (b) the predominance of small plants in manufacturing despite the advantages of large-scale production, (c) a close correlation between the size of firms and the size of plants so that small firms predominate in industries where the average plant is small, (d) the persistence of “minute, very small, small and smallish firms all employing less than 100” in non-manufacturing industries, except railway transport and

coal-mining The author supports this view of a "glaring discrepancy between the logical theory of efficiency and the actual facts of industry" by relevant statistics drawn from Great Britain and the United States He concedes the case for the small firm in some industries, but concludes that "there still remains a wide area where large-scale production is physically possible but is not in fact adopted"

Having thus made his point with commendable conciseness, Professor Florence essays the task of evaluating "the human forces that make for irrational, illogical and inefficient organisation" In the first place, the relations between producer and consumer are in some respects chaotic To those who condone the variety of design of most products in response to the consumer's whims, Professor Florence replies that the business man is not simply one of many faithful servants There is much standardisation in consumption The needs of life and the conventional necessities of the standard of living may be produced under large-scale conditions Similarly, the intermediate products and producers' goods can be standardised But the producer very frequently sets out to indulge the consumer's passion for variety and novelty, and much advertising is based upon this human weakness, or folly as it often turns out to be Professor Florence has great faith in the possibilities of statistical analysis of consumers' needs as an aid to standardisation He draws attention to the use of market research in forecasting changes of fashion, in portraying the changes in employment in different industries, *e g* the growing importance of housing in recent years, and in showing the effect of changes in income upon demand To curb effectively the consumer's desire for variety and to reduce costs in distribution monopoly may have to be established Rationalisation receives a stimulus from this logical pressure for monopoly, though it may be necessary to curb the powers of the "rationalists" themselves

From the relations of consumer and producer the book proceeds to a consideration of internal management and organisation of industry This chapter contains a short introduction on investment and employment, which, according to the author, are often "rival antagonistic policies" The few pages leading up to this conclusion appear to contain some heresies which the author might have expounded more fully When he resumes his main task again he moves rapidly and firmly over the chief problems of internal organisation created by the growing importance of investment and by variations in its volume. Labour policy in a depression, the economics of the shorter working day and of

multiple shifts, systems of management, and the relation of ownership to administration in modern industry are discussed with refreshing vigour and abundant suggestion for improvement on present practice. There follows a chapter on "Stimulus to Labour," in which, as might be expected, the author of *The Economics of Fatigue and Unrest* points the way to an adjustment of industrial relations to the complexity of large-scale production. He is not so convincing in arguing on "Stimulus to Investment" that we have now reached a (third) stage of investment "where inducements to private owners to risk their property can no longer avail against timidity and inertia to obtain the increasing supplies of capital that are necessary." Surely, if investors with funds are timid and inert they must depress the rate of interest, which is the greatest stimulus to investment.

Professor Florence completes his main task with a chapter on "Stimulus to Enterprise and Administration." Modern industry, like the Civil Service, is evolving a technique of administration that sometimes conflicts with the exercise of initiative. It is the task of the organiser to combine efficient administration with the maintenance of enterprise among his executives or managers. Professor Florence shows that many forms of organisation fail to evoke an adequate response from the managers, or they are weak in other respects, such as co-operation with other firms, capacity to reinvest capital or to make suitable appointments to positions of great responsibility. He gives most marks for administrative efficiency to firms controlled by professional men and trained administrators, but does not quote experience in support of his contention. It is thus not surprising that he attaches great importance to "Education for Administration," to which he devotes a final chapter.

If this book is a fair sample of Professor Florence's teaching in Birmingham the mantle of the late Professor Ashley has indeed fallen upon capable shoulders.

D. B. COPLAND

De L'Utilité et de sa Mesure Par JULES DUPUIT. (Écrits choisis et republiés par Mario de Bernardi.) Torino La Riforma Sociale Pp 228 40 lire

THE economic writings of Jules Dupuit have now been made available in a collection entitled *De l'Utilité et de sa Mesure*, published at Turin (*La Riforma Sociale*), and edited by Dr Mario de Bernardi. The title is taken from Dupuit's contribution to the *Journal des Économistes* in 1853, in which he completed and

presented in a more systematic form the argument of the path-breaking papers which appeared in the *Annales des Pont et Chaussées* in 1844 and 1849. These latter papers have hitherto been accessible in only a few libraries, and a great service is rendered to economists by this beautiful reprint. It is also important to have available the article of the engineer Bordas (1847), which traversed Dupuit's first paper, and led to the re-statement of 1849. It was, in effect, the principle of the Consumers' Rent which was in dispute, and of which Dupuit had sought to make practical use in the policy of local charges. This volume also includes Dupuit's shorter contributions to the *Dictionnaire d'Économie Politique* (1852-3), a bibliography of all his publications, and the biographical notice of his colleague Mahyer. It is the second of a series of Reprints of scarce economic writings, under the direction of Prof Einaudi, which are available to members of the Royal Economic Society on special terms. The present volume can be obtained by members at a price of 9s on application to the Assistant Secretary, 6 Humberstone Road, Cambridge.

D H MACGREGOR

Management of To-morrow By L URWICK, O B E, M C, M A
(London Nisbet & Co 1933 Pp xvii + 205 8s 6d
net)

As Director of the International Management Institute at Geneva, Mr Urwick is well qualified to deal with the problems of industrial organisation, and, if he does not solve them all, he puts forward ideas which may lead to their solution. The variations of human nature forbid us to speak of a science of management, but the scientific spirit can be applied, and the result in Mr Urwick's hands is what may be called a philosophy of management. During the last fifty years the relations between the industrial unit and the groups surrounding it have become more complex, the manufacturer is brought into touch with international bodies, state activities, local authorities, trade organisations, and trade unions. He must substitute rational analysis for the method of trial and error, knowledge for opinion. On the physical side of production, scientific laws are applied, "but on the much more important human side of management, the task of inducing men to co-operate, the conception of scientific method is often ignored." Yet "every question that faces the business manager can be approached in the scientific temper." Management problems involve "all the legislative, planning, directing, supervising and controlling activities involved in economic operations." Manage-

ment research is carried out partly by specialist workers in industrial psychology, physiology, etc., partly in factories by managers seeking for greater efficiency, and partly in professional associations, but it must stretch out beyond the factory to consider the relations of the individual to the trade as a whole, to the combination or cartel, and, through problems of standardisation, control of production, and the like, to the community. Mr Urwick thinks a policy of organisation should be assumed, and a list of the necessary activities drawn up, which will be the same for any size of undertaking, and grouped "into kinds and into grades of authority and responsibility." The tasks may be subdivided according to process, geographical area, objects of production, or subjects, the latter is the rapidly spreading "functional" form, where certain special professions, such as accountancy, works engineering, works chemistry, have already firmly established themselves. He then discusses how the co-ordinating authority should operate, and thinks that in business, as in the Army, there must be a "staff" who do not control the functional heads but assist the supreme executive by seeing that the "consequences of any decision have been worked out, are understood, and are being carried out" in proper correlation. Large-scale businesses, combinations, and cartels have their special problems over which traditional business secrecy has cast a heavy veil, but their scientific study is necessary and should be international. While the producer and distributor were the same person, he learned what the consumer wanted, and at what price, and how much. Herein the modern system of distribution has failed, with its interposition of stages between the producer and the consumer. "The main job of distribution is not to get rid of what production makes, it is to tell production what it ought to make." In every business there should be a "Marketing Division," which should study the "lines" of production, their most profitable prices, quantities, and qualities. This is now done to some extent, but without any unified policy, the salesman wants novelties and a wide range of choice, the man in charge of a manufacturing process wants a long run of an article for cheap production. The present crisis is largely due to a hitch between production and distribution, to the offering of the wrong goods or to the offering of the right goods at the wrong prices. The manufacturer should try to ascertain what the consumer wants and not, by mass advertising, to force the retailer to stock goods in uneconomic variety or of a kind which has to be forced on the customer. There should be research into distributive costs to ascertain

whether price-cutting is due to ignorance or to over-wide margins. The further standardisation can be carried, the more the retailer can keep the manufacturer informed of the state of the market, and the more the manufacturer can have long runs of a comparatively simple range of goods. The object of rationalisation is the avoidance of waste in the widest sense of the term, and for that the fullest co-operation of all parties is required. "Every industry should have its Council representing consumers, distributors and producers. Every locality should have its Chamber dealing properly with regional business. Every nation should have its economic general staff assisting and collaborating with these subsidiary agencies, and integrating its economic activities with those of other nations. These bodies should be created, not by the state alone, but by business itself acting in collaboration with the state, they should exist not to command, but to advise and to inform." There is an extremely interesting section on training for management, of which the keynote is "leadership can be taught."

HENRY W. MACROSTY

A History of Farmers' Movements in Canada By LOUIS AUBREY WOOD (Ryerson Press. 1924 Pp 365)

IF one examines the literature pertaining to the organised activities of Canadian farmers one is at once struck by two dominant facts. The first is that in practically every case the study is confined to a consideration of the developments within a limited area or over a limited period or is restricted to a particular form of farmer organisation or is undertaken more or less on the basis of a particular farm enterprise. There are, *e.g.*, such works as *The Co-operative Marketing of Grain in Western Canada*, *Agricultural Co-operation in Western Canada*, *Agricultural Co-operation in Ontario*, or *The History of the United Farmers of Ontario*. The second fact is that attention has been confined largely to co-operative business organisations of comparatively recent date and to a not inconsiderable extent to the organised movements of Western grain-growers since the turn of the century. Very little has been written concerning the extent to which farmer movements have arisen or existed for the express purpose of concentrating the agricultural section of public opinion, either in an external advisory manner or more directly by endeavouring to secure farmer representation in Parliament. Because of these tendencies there is a danger of conveying the false impression that farmer movements in Canada are not only of very recent origin

but are marked by a striking uniformity of aim and method. To correct this serious and common misapprehension a book which would give a connected and chronological account of the varied and numerous farmer movement developments over a longer period and for the entire country has been badly needed.

This book goes a long way towards meeting these requirements. Nearly half of it is devoted to events occurring before 1900. While it is divided into five sections, the separation is made chiefly in order to mark the main general divisions of development, or to indicate the areas and problems in which or around which farmer interest concentrated during particular periods. In no sense does this division destroy the thread of continuity of the story considered as a whole. The chief sections referred to are, in order, The Grange in Canada since 1872, The Patrons of Industry, 1889-1902, The Launching of the Tariff Struggle 1896-1911, and The Farmers' Movements in More Recent Times.

One cannot but be struck by the fact that farmer movements have always developed as the result of a widespread feeling that certain specific grievances existed. Interest in farmer movements has seemed to vary directly with the ability of farmers to fasten on to and discuss one or more matters immediately affecting them. As a logical sequel to this may be noted the lack of continuous interest on the part of farmers in their own organisations, a sort of an in-and-outness. This irregularity of interest is seen in the rapid rise or fall in organisation membership, and the rise and fall of this or that specific movement or organisation. Again, and really as part of the foregoing, one may note that just as the interest in and development of the movements have been largely spasmodic, so have the demands made and reforms secured been somewhat short run and opportunistic in character. Partly in the same connection may be observed the apparent fact that there has been a conspicuous absence of any permanent purely educational farmer movement. Such educational attempts as have existed have usually been attempts at studying the special matters about which immediate action was sought. Partly, one suspects, as the result of this absence of a long-run general educational programme there has been evident in many cases a paucity of good business managers and also in many cases an unfortunate degree of farmer suspicion regarding the actions of his own business representatives. Probably the leading conclusion, however, is that, despite many weaknesses in organisation, Canadian farmers have after all managed to focus farmer public opinion to a remarkable degree, and as a result have secured for farmers a totality of governmental con-

sideration far greater than is often believed. This is, of course, especially true of situations where farmers constituted a large proportion of the electorate. But while this book suggests that much has been accomplished through farmer organisation, it also seems to indicate that, on balance, our farmers have stood to gain much more by making their desires known from the outside than by taking more direct political action. It is also quite clear that they have secured decided economic benefits by co-operating to carry on independent business activities. Finally, one must conclude that there has been increasing difficulty in obtaining and maintaining a really national farmer view-point. This is no doubt partly traceable to the lack of a general permanent educational policy and programme, to the distance factor, and also to the varying interests of farmers in different regions. In any case it is most significant that the Canadian Council of Agriculture, whose piecemeal formation and decidedly worthwhile accomplishments are discussed, has gone out of existence. The result is that to-day there exists no single organised body through which the view-points of the many separate agricultural organisations on *general* questions affecting the *entire* industry may find expression.

W. A. DRUMMOND

University of Toronto

Agricultural Russia and the Wheat Problem By VLADIMIR P. TIMOSHENKO (California, Food Research Institute 1932
Pp xi + 571 \$4 00)

As is fashionable with writers on the Soviet Union, the author of this book first of all points out that "economic experimentation as it proceeds in the U S S R is a subject that arouses emotional as well as intellectual responses." This Ukrainian professor, who left the U S S R in 1919 and has not been back since, then goes on to say "I have sought in this book, however, not so much to formulate my own view of agricultural developments and to persuade readers of its validity, as to present in a comprehensive form the data." But, in fact, this book is as comprehensive a survey of Russian agriculture as is compatible with consistent depreciation of everything that has ever been thought, said, or done by the Bolsheviks. Such a criticism must be substantiated by facts. Let us turn to the facts.

There is much statistical material. Now, statistics are a purely quantitative measure, and give no indication of qualitative movements. An *average* production of grain per head that seems large does not preclude a large percentage of deaths from starvation.

This should be borne in mind when reading this book. Let us first of all consider the question of famine, which receives considerable prominence. In the Index references will be found only to one famine, that of 1921. In the whole text of the book only one reference will be found to any other famine but that of 1921. The reader who is not acquainted with Russian history will get the impression from this book that, except for one case of very little importance in 1891, Russia had one famine in its history. By reckoning in ten-year averages for pre-war periods, and by making no reference to pre-war famines, the writer creates here a wrong impression in the mind of the unwary reader. But what are the facts? That, almost every ten years, from the tenth century up to the revolution, famines occurred in Russia, and that, between these large famines, there were often local famines of considerable frequency. Thus, the Russian language contains two words in its vocabulary, "golod," for a famine of considerable dimensions, and "golodovka," for the smaller more localised famine.

In spite of the fact that the activities of the Soviet Government for the protection of the health of mothers and children have everywhere received wide recognition, and while the main feature of the fall in the death-rate of Soviet Russia has been the fall in maternal and infant mortality, due to what is undoubtedly a permanent improvement in health services, we find the *only* explanation for the fall in death-rate being given that perhaps it is "partially" due to the famine.

The facts given in this book bear witness continually to the drastic necessity for a complete reorganisation of Russian agriculture. But while the writer spends plenty of time on the difficulties accompanying this reorganisation, he never once admits that its purpose is sound, namely, finally to solve the problems of Russian agriculture, and he even sometimes completely ignores the fact that this process of reconstruction is taking place. Thus, we may quote this extraordinary example of blindness to what is going on. The book appeared in 1932. At the end of 1932 approximately 70 per cent of the land of the U S S R under cultivation had been collectivised. On this area the three-field system had been completely eliminated. And this was not simply the work of one year, but had been going on since 1928, a process whose difficulties are fully described by the writer. And yet we find (pp 202-3) a description of the three-field system in the present tense, with not the slightest suggestion that a substitute has been found for it, or ever can be found.

Another example of the writer's attitude to Soviet policy is the following While dealing with the development of M.T.S. (Machine Tractor Stations) in the Soviet countryside in the last few years, he writes as follows: "These stations make contracts for ploughing with collective farms and individual peasants, on the condition that a certain percentage of the crop harvested on the land so ploughed is to be delivered to the M.T.S. In this way the M.T.S. has become important in gathering grain for the State. This ingenious system for the control of the activity of millions of peasants through a few thousand M.T.S. with all the means of production in their control may reasonably be compared with the capitalistic organisation of manufacturing before the factory system developed. In those days an entrepreneur supplied small producers, working in their homes, with the means of production, on condition of the delivery of the products to him at a fixed price. The Soviet Government now seeks to apply to Russian agriculture a system analogous to what is described as a 'sweating system' of manufacturing in economic histories both capitalistic and socialistic" (p. 460)

This quotation gives such a perfect illustration of the "emotional responses" of the writer that it is worth quoting at length. Let us examine the activities, respectively, of the M.T.S., the Soviet State, and the contractor under capitalism, with regard to the producer. Taking the contractor under the household system first, we find that the only purpose of this individual was to get as much work as possible out of the workers. For this purpose they were supplied with everything, often including machinery as well as raw materials, they were then paid a miserable wage for the work they did, the product being entirely taken by the contractor.

But what occurs with regard to the Collective Farms? First of all, they are supplied with selected seeds and fertilisers and other forms of technical assistance by the State, in return for a certain part of the product. The services of the M.T.S. are supplied in return for a definite part of the product *in payment*. The rest of the product of the collectives belongs to them. Part of this is set aside for the next sowing, for fodder for live-stock and so on, and the rest divided among the members. At the present time the State takes its share in the form of a tax on the acreage under cultivation, the amount varying according to the productivity of the land and the degree of technical development of the farm concerned. Thus, the collectives not only have their products for consumption, but are actually encouraged to save

and to expand their cultivation on their own initiative, and thus to develop progressively, raising the standard of life of their members at the same time. It must be further stated that while the State levies a tax in kind on the produce of the farms, it also provides to the villages social services on a scale unprecedented in the history of Russia, thus giving something in return, which raises the standard of life of the peasants, but which is absolutely ignored by the writer of the book.

In considering Soviet Russia there are always different standpoints from which every question may be approached. The writer of this book has one of these standpoints. "The new forms of agricultural organisation, representing a very far-reaching change from the older system, are still not established. This may be seen from the fact that in the summer and autumn of 1931 the Soviet Government and the Communist Party themselves found it necessary to check further spread of collectivisation, and instead to proceed towards strengthening existing collectives in the direction of their better organisation." (p. 500). From another point of view, however, the same fact might be formulated quite differently. "The new forms of agricultural organisation are now so *well* established that the Soviet Government and Communist Party have found it no longer necessary to press for further increase in collectivisation *quantitatively*, but to concentrate on improving the quality of cultivation over the large area already collectivised."

In the preface to this book the writer suggests that he is above the "emotional responses" called forth by a discussion on Soviet Russia. While claiming "not so much to formulate his own view," the whole standpoint of the book reflects that view. The writer of this book left Russia in 1919. Since then, either because the Soviet authorities did not allow him back, or because he himself did not want to return, or for both of these reasons together, he has not been in the Soviet Union. I have lived in the U.S.S.R. on and off for two years, because I wished to do so, and the Soviet authorities have raised no objection. It is natural, therefore, that each writer must have his own standpoint. The writer of the book claims to be above "emotional responses," and as any reader who believes this is likely to take much that is in the book without question, I have tried to show why readers should approach it with care.

Land Problems of India By RADHAKAMAL MUKERJEE, Professor of Economics and Sociology, Lucknow University (London Longmans, 1933 Pp x + 369 9s)

LAND tenure is more complicated in India probably than in any country in the world. Customs governing the occupation of land vary from district to district, and each province has its own considerable body of land legislation differing, in some cases fundamentally, from other provinces. Primitive tribal customs literally thousands of years old have survived in some parts. Each successive wave of conquerors from the north-west introduced new customs in the parts where the invaders settled in numbers. Four hundred years ago came the organised land system of the Mughal Empire, which the British inherited, but in the last century overlaid with laws based on English ideas, and more recently based on the ascertained needs of the situation. Professor Mukerjee gives a good idea of this complexity and indicates the probable origins of many indigenous systems of tenure. His book, however, is not primarily a description of Indian land systems, for that task was undertaken by Baden Powell in his monumental work of three volumes, whilst the statutory law of British times is set forth in many legal works.

Professor Mukerjee is concerned with the effects of the laws and customs of the land tenure upon the efficiency of agriculture and the welfare of the peasants. The existing systems of tenancy, and the abuses which have grown up under them, are described in order to explain the reasons for the reforms which have been attempted and those which the author advocates. These are of great range and complexity, but everyone who studies the rural economy of India agrees that sweeping reforms are necessary to improve the economic position of the peasant, though opinions differ as to how they should be carried out.

The most serious evils, which are correctly described by Professor Mukerjee, are the growth of landlordism and rack-renting, even in the provinces where the law recognises only peasant proprietorship, sub-infeudation, the land being let and sublet to five or six successive sub-tenants, only the last being the actual cultivator, the extreme subdivision of holdings, so that a family has to live on less than an acre of rice land, and individual fields are often no larger than a tennis court, the scattered nature of the usual holding with fields in ten to twenty places, the levying of premia and "fines" by landlords where rents are fixed by law, the pressure of land revenue on the small cultivator in some parts, and the usurious interest charged by

money-lenders, and failure of the land alienation acts wholly to protect cultivators from loss of their land

The author considers at some length the problem of enlarging the multitude of uneconomic holdings, and of consolidating the holdings which consist almost universally of scattered fields. He is in favour of compulsory pooling and redivision of the land into compact holdings, and readjustment of village roads and paths, and easements, such as irrigation channels. The attempts to protect tenants by conferring occupancy rights and tenancies for life automatically acquired have been partially successful. Yet there is a host of tenants at will who frequently have to shift, and of protected tenants having holdings too small to maintain a family. These classes might be provided for to a large extent by Government purchase of the large *zamindaris*, or landlords' estates, and sale to the peasants by gradual instalments on the Irish plan, after laying out the land to the maximum advantage. The permanent settlement is reviewed by the author, and its baneful results are indicated. The proportion which land revenue bears to rent and to the cultivator's surplus is examined, but, since most of his proposals are sound, it is rather surprising to find the author proposing that the land revenue should be reduced for cultivators with very small holdings on the principle of ability to pay. This confuses a tax which takes a share of the economic rent with an income tax, and in any case it would prove extremely difficult from the administrative point of view.

In several places the author's inferences from the experience of other countries seem to need reconsideration, but the book forms a useful and suggestive review of the agrarian problems of India and of possible methods of alleviation. Numerous vernacular words are used for different tenures, tenure-holders and customs without any translation or explanation, and the book as a whole has been written for those already conversant with the main features of Indian rural economy.

H S JEVONS

Industrial Labour in India By S G PANANDIKAR, M A , D Sc
(Longmans, Green & Co 1933 Pp 299 9s net)

THE protection of factory and plantation labour in India is a problem that has been, ever since the end of the Great War, a subject of considerable study in official and unofficial circles in that country. Much and far-reaching legislation was enacted in the years between 1921 and 1927, and later a Royal Commission,

presided over by Mr Whitley, made an exhaustive examination of the whole position. The report of that Commission provides a final and authoritative account of the prevailing conditions and must be the starting-point of all future investigations. No serious student can afford to neglect it.

The general reader will find that Dr Panandikar's work supplies much of the information collected by the Royal Commission in a readily accessible form. He has made a careful and painstaking study of the conditions of employment in all the major industries. This is followed by a summary of existing legislation and a programme of further legislation recommended by the Commission. Questions affecting the efficiency of Labour, such as health, housing and welfare, are then discussed. A chapter is devoted to wages and standard of living. Useful as such a treatise undoubtedly is, it is somewhat too ambitious and endeavours to cover too wide a field. While relying on previous works on the same subject, the author also claims to have had opportunities for making personal investigations, but it is not always easy to ascertain exactly when he is utilising his own inquiries. Students will be disappointed to find that there is no bibliography.

"The aim of the book," Dr Panandikar writes, "is to show that the main obstacle to the industrial and economic progress of India is the absence of an efficient, steady and contented labour force, that it can be largely overcome in a few years by the adoption of certain measures." This seems altogether too optimistic a view. Those who have spent many strenuous years in India in the effort to ameliorate conditions know that progress is bound to be slow. They are aware of the dead weight of opposition from different quarters that has to be met before any appreciable advance can be made, even with regard to comparatively simple legislative measures. The illiteracy of the workers and their own conservative ideas are yet other obstacles which cannot be overcome in a few years. An uneducated labour force is very weak and is also a grave potential danger.

Certain rather strange statements regarding labour legislation and trade unionism occur in the course of the book. "The former," Dr Panandikar writes, "is apt to reduce the spontaneity and adaptability of the private efforts of employers for the improvement of the lot of the workers, and, as it must generalise so as to be able to influence large areas and numbers, it may cause injustice to individual cases", while "the great drawback of trade-unionism is the danger of serious conflict between the workers and their employers." He goes on, however, to state that "the

balance of gain" in each case is in favour both of labour legislation and trade-unionism. But when dealing with these subjects in greater detail, Dr Panandikar clearly shows that he realises the advantages that labour has gained through them.

The chapters on Labour Legislation already need revision, as considerable advance has been made within the last year. Many important recommendations of the Royal Commission, which were only at the stage of being bills or proposals when the book was written, have either since been duly enacted or have made considerable progress in the Legislature. The important Factories Bill, for instance, which was then only in a draft form, has been accepted in principle by the Legislature and referred to a Select Committee. The bill relating to deductions from Wages and Fines has been formally circulated for opinion. Bills which have since become laws are the Workmen's Compensation (Amendment) Act, the Act prohibiting the pledging of the labour of children and the Land Acquisition Act. These measures will have an appreciable effect on factory conditions and on the welfare of the workers, and will render obsolete many of the author's observations on present conditions.

A peculiar feature of Indian factory organisation is the existence of "jobbers," or overseers, who combine some of the functions of foremen with the power of engagement and dismissal. This system naturally leads to many abuses and is rightly condemned both by Dr Panandikar and the Royal Commission. The recommendation of the Royal Commission that educated labour officers should be appointed in their place is endorsed by Dr Panandikar, but this recommendation does not take into account the various languages spoken by the workers in an Indian factory. The establishment of Employment Exchanges, on the other hand, in the different provinces—a far more effective way of breaking the power of the jobbers—was not recommended. The Royal Commission even goes so far as to state that "we do not think that it would be wise to start them at a time when most factory owners can find sufficient factory labour at their gates." The reason advanced for their non-establishment in India was the very reason for their establishment in England—so great is the difference of the view-points in the two countries.

On the whole, Dr Panandikar's work deals with industrial conditions in India in an impartial manner and we may confidently express the hope that it will help to educate public opinion in that country. In that way it may ultimately be possible for the workers of India to enjoy a status and conditions more in con-

sonance with her position as one of the chief industrial countries of the world

G M CHATTERJEE

A Hundred Years of Inland Transport, 1830-1933 By C E R
SHERRINGTON (Duckworth, 3 Henrietta Street, W C 2
Pp 376. 15s)

It may be said with sufficient accuracy that modern transport began a hundred years ago, since Shillibeer ran the first omnibus in London in 1829, and the Liverpool and Manchester Railway was opened in 1830. Railways of a kind were known long before this, wagons were dragged over strips of wood or plates of metal. Some people, indeed, trace the curious width of our railway gauge—4 feet 8½ inches—to the width of Roman chariot wheels. Steam railways meant the eclipse of canals, and, after a time, the extinction of stage-coaches. It is not true to say that railway companies strangled the canals, Parliament forced them to buy up the older form of transport, which is much like forcing taxi-cab proprietors in London to buy up the old “growlers” and hansoms.

Railway rates were based on canal rates, and both on a classification of goods by value, not on the cost of service. Nowadays the whole system of railway rates, and indeed of transport economics, is challenged by the road motor vehicle, “whose operators base their charges mainly on the cost of movement irrespective of the value of the goods transported.”

In this interesting volume Mr Sherrington points out that the road haulier, being free from the obligations imposed by Parliament on the railways, can offer “much lower rates than a competing railway for high-grade goods which load well and can be easily handled.” In this way the road vehicle tends to keep up the charges for goods which the railway must haul, such as export coal, minerals, or meat in bulk from the docks. Since the Railways Act of 1921 made the trading and travelling public the senior partners of the railway shareholder, it is not really true that road transport means cheap transport. If traffic returned from the roads to the railways in such quantities as to yield more than the standard revenue as fixed by the Act, the railways would have to give back four-fifths of the gain to the public in lower charges, just as they now give back three-fourths of their de-rating allowance in lower charges for certain classes of heavy goods.

Some controversies which raged last century have been settled, Mr Sherrington supports the victor in the Battle of the Gauges, though he admits that Brunel’s 7-foot gauge had certain advan-

tages, and he recognises Brunel's genius as an engineer. The place of competition in transport is not yet settled, Victorian England believed in competition between the big railway companies and refused projected amalgamations, and even pooling schemes. Since the war Parliament has changed its policy entirely, and is now forcing amalgamation on all kinds of industries which do not want it. A new controversy centres round the taxation of the road motor vehicle. Ought it to pay for the use of the roads as well as for the damage it does to them? Is the petrol duty a payment of a toll for the use of the roads, or a protective duty on imported fuel? Are the licence duties on the heavier commercial vehicles and on the omnibuses heavy enough? Mr Sherrington discusses these questions, but does not answer them.

A large part of the book is taken up by detailed accounts of how the innumerable small local lines were gradually linked up to form a truly national system of communications. Competition certainly involved some waste and a good deal of duplication, however, it had its uses in securing continuous improvement in the service offered to the public. Mr Sherrington has much to say about technical improvements in railway working which make travel faster, safer, and less fatiguing. Our modern express services depend on the vacuum brake and the automatic signal. It is noteworthy, though Mr Sherrington makes little of it, that the enormous improvement in the service offered to the public has not been accompanied by any increase of charge. A traveller pays no more for a seat in a corridor express than his grandfather paid for a board in a cattle-truck.

As for the Railways Act of 1921, Mr Sherrington is amazed at the want of foresight shown by its sponsors, who could not see that the motor vehicle was already revolutionising transport, still he thinks that, on the whole, it was "a successful piece of legislation." Tramways, he says, cannot be neglected as a convenient and cheap form of urban transport, though he has leanings towards the trackless trolley-bus. The change from horse to electric traction took a long time, why was the petrol-driven tram not given a trial in this country? One would like to know the real difference in cost between carrying a given number of passengers between two points (*a*) by tram and (*b*) by motor omnibus, if the omnibus were charged, like the tramcar, with the cost of its track. Altogether this book is written with the detailed knowledge of transport questions which one expects from Mr Sherrington.

J E ALLEN

The Professions By A. M. CARR-SAUNDERS and P. A. WILSON
(Oxford University Press Pp vii + 356 25s)

THE place and function in society of professional associations is a subject of great interest and importance to the ordinary member of the public no less than to the political theorist. The latter takes the position of associations within the State as a fundamental theme, a theme the perennial urgency of which has been clearly demonstrated by recent European events. The former is constantly drawn to the discussion of those practical problems which relate to professional organisation and the availability of professional services. Public medical service, legal aid for the poor, the place of professional education in universities, such problems as these cannot fail to receive wide attention.

But while interest both in the organisation and status of professional organisations is widespread, informed guidance upon these problems is conspicuously lacking. And until all that is characteristic of professionalism is clearly set out and critically examined, little is usefully possible in the way of generalisation or policy-making. It is to supply this need that Professor Carr-Saunders and Mr. Wilson have made this pioneer survey. They themselves depict very adequately the background from which such a book takes its value.

“Not only is there no widespread acquaintance with the organisation of the professions, but there is the greatest divergence of view about the value of professionalism and of all for which the professions stand. To one writer of great authority and influence they are objects of deep suspicion, to another, of less authority but of much influence, they are ‘conspiracies against the public’. On the other hand, in the view of an author whose political affiliations are the same as those of the writers to whom allusion has just been made, the professionalisation of business is one of the most promising methods of social reform. This state of affairs is to be explained, at least in part, by the fact that information about the professions is almost wholly lacking.

Until many investigators, approaching the subject from different angles, have worked upon it (professionalism), generalisations can have little behind them, and such opinions as those to which we have referred can be no more than expressions of like or dislike of certain aspects of professionalism which, from lack of investigation, may not have been thoroughly understood.”

The first part of the book surveys a wide field of twenty-six professional bodies. No association is omitted, except the Church and the Army, which by reason of lineage, custom, State action or voluntary development can claim professional status. Part II traces the history of the emergence of professions since early mediæval times. As a comprehensive description of their subject these two sections of the book are unrivalled.

Parts III and IV are an analysis and evaluation of professional organisation and activities, and a study of questions concerning the place which professions might occupy in the society of the future. Here, there is set out a body of observations on their habits and conduct which the professions would do well to take to heart. Particularly is this the case with the medical and legal professions, whose standards and organisation are subjected to a very searching criticism.

It seems ungrateful to ask for more from a work which provides so much, but it is, nevertheless, a pity that some of the problems discussed were not treated comparatively. For there is a wealth of significant foreign experience in this field which could have been used to illustrate the authors' results. In law, medicine and teaching, in particular, a number of conclusions as to English practice might have been drawn from a consideration of the experience of the same professions abroad. There are, for example, in the United States, no closed corporations like the Inns of Court. One would like to know whether it is that fact which makes it possible for the great American law schools to exert the influence they do in promoting legal reform. Again, the recognised status of the French teacher is considerably higher than that of the teacher in England. Is there any connection between this fact and the absence in France of the British dual system within which State education is largely a provision for those who cannot afford the "superior" article?

In view of the fact that the political theorist is mentioned in the preface it might have been as well if the whole question of freedom of teaching and self-government for associations had been examined in the light of recent experiences in Russia, Italy and Germany. What problems of freedom, for example, arise for the university teacher and what happens to his organisation when universities become State-controlled? What would be the reaction of the senior common rooms of self-governing Oxford and Cambridge to the technique of an English Goebels?

There is one further and deeper criticism of the book. One is not conscious that the authors have brought any considered

social philosophy to bear upon their subject. No work of this kind could fail to convey, in part, the impression that many of the characteristics of professionalism are the direct or indirect result of social inequality. No one can escape the conclusion that rules of entrance, methods of government, tests of competence, relationship to change, that these aspects of professionalism are and must be influenced by the fact that there are in society classes to which, for the most part, the door of the professions is closed. The authors do, in fact, come near to a discussion of this fundamental of their subject when they insist that "the building of bridges between Knowledge and Power is the first necessity." But they do not go on to link up, in any definite way, the practices they criticise with that inequality of access to the professions which is the necessary implication of an unequal society.

Professor Carr-Saunders and Mr Wilson have made a large number of particular suggestions which the public and the professional world ought not to neglect. But they do not let us see whether they possess a social philosophy of their own, nor, apparently, do they use it as a basis for evaluation. They are, for example, able to point out the absence of an organised relation between the legal profession and the problems of legal change. But they do not go deeper to show us why such a state of affairs should exist, they do not refer us back to the inevitable relationship between law and the economic foundations of society. Which is a pity, for along that path some significant implications might have arisen.

But when all this has been said it remains true that the authors have performed a task of very great value. The issues which arise out of the relation of the expert to society are many and important. With this book it is possible, for the first time, to approach these issues with informed guidance. Those concerned with the development of opinion and policy with regard to the professions can afford to neglect neither its material nor its conclusions.

W A RUDLIN

Elementary Statistical Methods By E C RHODES. *Studies in Statistics and Scientific Method*, edited by A L BOWLEY and A WOLF. No 1 (London: George Routledge & Sons, 1933. Pp 243. 7s 6d.)

MR RHODES appeals to the common-sense of the reader, not to his mathematical abilities. Yet he succeeds in leading his reader gradually to problems of a more and more technical nature.

In the introductory chapters on Statistical Inquiries, Data, Desired Statistics, he shows in a persuasive and vivid manner some of the pitfalls which are frequently met with when collecting and interpreting statistical material. He proceeds to the theory of Averages and Measures of Dispersion and concludes with the Time Series. As the subject becomes more technical the treatment grows more concise. The weighted and moving averages are treated with pedagogical mastery. I am sure that the same might have been said of paragraphs on a few further elementary methods useful in practical work, if Mr Rhodes had written them. Thus, paragraphs on scatter-diagrams (such as used by Mr Rhodes himself in the recent February issue of *Population*), free-hand interpolation, computing the mode, might well have been added. The necessary space could be gained by making the first chapters slightly more concise and by leaving more to the common-sense of the reader and to practice. It must, however, be borne in mind that the book under review, "definitely intended as a first study," is not designed to serve as a reference book but rather to be actually read chapter by chapter. There is still no *communis opinio* as to the limits of what may be legitimately called "Elementary Statistics." Of the five or six text-books published in the last three years, some of the more advanced claim to have "introductory purposes" only (G. R. Davies and W. F. Crowder), or to presuppose only that amount of mathematical knowledge as is possessed by any "person of general culture" (Felice Vinci). Yet they serve purposes quite different from this book. For a beginner who may safely be supposed to have forgotten his school algebra it is at any rate preferable to get at first a broad presentation of the subject than to be awestruck at the outset by an array of mathematical symbols, thus being led to mistaking means for aims.

A few remarks may be added. I doubt whether Mr Rhodes is right in insisting (pp. 98-99) on the necessity of confining even non-smoothed histograms to continuous measurements only, thus making the graphical representation of the total sum by an area sometimes impossible. My two concluding remarks, made from an economist's point of view, refer to Mr Rhodes' as well as to most other modern writers' text-books on Statistics for the use of economists. First the reasoning on Price-Indices is mostly based on the well-known formal tests of the kind of those systematized by Irving Fisher. The formulæ of Laspeyre and Paasche are quoted among others. But the text-books omit to make use of the fundamental discovery made by Pigou as early as 1912

and corroborated later by Haberler and Keynes (the strict proof was given by R G D Allen in *Economica*, 1933, pp 200 *seq*). the two formulæ mentioned above give respectively, under condition of unchanged tastes, one the upper, the other the lower limit of any Price-Index claiming economic significance Second the decomposition of time-series In spite of a generally professed scepticism towards the notion of "trend," this notion seems more and more to acquire a permanent place in the body of doctrine Yet it would be possible to show the reader (by using exactly the same formal methods as with "trends") how to eliminate, not these merely abstract "time-influences," but those concrete economic influences supposed to be relevant to the particular problem under consideration ¹

J MARSCHAK

Methods of Statistical Analysis By GEORGE R DAVIES and
WALTER F CROWDER (New York John Wiley and Sons
1933 Pp 355)

THE scope of this account of the statistical technique required in the social sciences is rather more limited than the authors appear to claim They are, in effect, concerned largely with the statistical methods which apply to accurate or complete data of the kind given in "blue books" and, in particular, with methods of treating time series and of constructing index-numbers Very little attention is paid to the specific problems that arise when the material analysed is in the form of a sample Sections are devoted to averages, dispersion, index-numbers, time series and correlation and, in each section, the more elementary processes are separated from the supplementary or special methods The general practice, also, is to give only formulæ in the text, relegating the majority of the mathematical proofs and developments to an appendix

Even after allowance is made for the unavoidably heavy nature of the subject-matter, the general impression of the present reviewer is that the style and method of presentation adopted by the authors is unsatisfactory and lacking in inspiration It is not always clear, for example, what is being proved and what is merely stated with a proof somewhere in the rather sketchy appendix of mathematical notes Again, some of the terms used are introduced casually without any adequate definition of their meaning, the term "regression line" is a

¹ Cf O Anderson in the *Journal of the Royal Statistical Society*, 1927

case in point. But the main criticism here is that the whole development is seriously overweighted with descriptions of involved processes of numerical computation at the expense of the basic theory. In a non-specialised work of this kind it seems preferable to emphasise the essential theoretical background of the statistical methods together with the more straightforward methods of computation. It is better that the student should know exactly what he is doing even if it takes him somewhat longer, at first, to carry out the actual numerical calculations. If he is at all competent, he can be left to devise, or to acquire from various sources, the methods of computation most convenient in his own particular field.

In details, also, there are a number of surprising omissions. Many readers will look in vain for an adequate treatment of weighted averages, from their use in such processes as the standardisation of death rates to their application in the weighted-relative method of constructing index numbers. It is, however, scarcely fair criticism to remark on omissions of this kind. The needs of research workers who use statistical methods, even in the limited field of the social sciences, are so diversified that no book of this size can possibly satisfy even a majority of them.

R. G. D. ALLEN

NOTES AND MEMORANDA

THE COST OF LIVING OF GIRLS PROFESSIONALLY EMPLOYED IN THE COUNTY OF LONDON

WOMEN, it is often said, do not attempt to live on their salaries. Unlike men, they are but rarely entirely self-supporting, instead they rely, if unmarried, on their parents for some financial assistance, if married, and still working, they are partly supported by their husbands. Women, so it is argued, regard their earnings as "pocket-money." This description is usually taken to apply especially to the economic position of young unmarried girls, working in commercial and professional occupations, and who are assumed to come from middle-class homes. Here, it is pointed out, the parents are most probably in a position to provide their daughters with free board and lodging, even if they cannot afford to give them a dress allowance.

For some time I have wondered if this is a true description of the position. I was inclined to believe that, at any rate since the Trade Depression, many parents, in all classes of society, have not been able to assist their daughters financially. My own impression was that girls to-day are much more dependent on their salaries than is popularly supposed. Such being my belief, I turned to look for data on which to check my own impressions. I found, however, that very little was known about the position of girls in non-industrial jobs. The girls rarely belong to Unions, from which information could be obtained. Budgets of income and expenditure are seldom seen. Miss Collet published in the *ECONOMIC JOURNAL* in 1898, a few accounts from professional women—but conditions have so altered since these budgets appeared that they can no longer be considered as typical. I realised that I should have to collect the necessary data myself, if I wanted to discover whether my impressions were correct. I therefore undertook an investigation into the cost-of-living of women working in professional and commercial occupations. The results of this investigation form the subject of this article.

The inquiry was conducted in the following way. I interviewed unmarried girls between the ages of twenty and thirty years, working in non-industrial occupations in the County of London. This particular age-group was chosen because it appeared

most likely that girls in the group would have similar types of expenses. If the age-limit had been extended to thirty-five or forty years, women would have been included in the inquiry who were beginning to save for their retirement. Girls under thirty do not usually reckon saving as one of the items they have to budget for, unless they are in jobs where there is an automatic superannuation deduction, furthermore, the background of the older women might have been considerably different from that of the younger girls. Their homes might have been broken up, their parents older and less able to help them. Their problems would be different. They are not the girls usually referred to in popular conversation on business girls. The lower age-limit was set at twenty because it is assumed that few girls under twenty would be earning salaries on which it would be possible to live, even if they wished to do so. Girls between the ages of seventeen and twenty are usually paid on a trainee basis, as their salary is supposed to be "pocket-money."

The girls interviewed were asked to state their annual income, distinguishing between earned and unearned, and to give a detailed account of their weekly expenditure over a period of four weeks. The amounts spent on items that were not included in the weekly budget, such as clothes, holidays, and medical attendance, were given in terms of the expenditure of the previous year (1932). Any savings were also calculated in this manner. The girls were also asked to describe how they spent their leisure time, both during holidays and during the working week. A number of rooms, hostels, and flats, in which the girls lived, were visited. In this way an insight into the actual lives of the girls was obtained.

The choice of girls for interview was determined by personal opportunity, as the investigation was carried out on an informal basis. No limit was given to the size of the income. The budget of any girl who was known to come from a middle-class home (*i.e.* parents' income over £225), and was engaged in earning her living in a non-industrial occupation, was accepted. The investigation resulted in the collection of fifty budgets, seven of these had to be discarded owing to the inadequacy of the information offered.

Though the sample obtained was small, I think it can be regarded as giving a fairly representative picture of the cost-of-living of girls of that particular age-group, working in commercial and professional jobs. The investigation, though carried out on a small scale, covered a wide occupational area. Budgets were obtained from girls working in all the most important jobs that

come under the heading of commercial and professional in the Census Administrators in the Civil Service, teachers, dispensers, journalists, copy-writers, mannequins, librarians, and film-workers were interviewed, while in the commercial occupations, budgets were obtained from typists, filing-clerks, saleswomen, hairdressers, manicurists, telephonists, dress-makers, programme-sellers, and lift-girls. All the budgets were checked over personally with the girls interviewed, a high degree of accuracy was thereby obtained.

The results arrived at from an analysis of the budgets did not bear out the popular conception of the financial dependence of this type of girl on her family. Of the girls who were living at home (thirteen in all), two only paid nothing out of their salaries for board and lodging—these two girls regarded their earnings as pocket-money only, but they were the exception. The remaining eleven paid their families a weekly sum, sufficient to cover at least their food, and, in some cases, a share of the rent as well. True, none of these girls who were living with their parents can be considered to be entirely self-supporting, since it is doubtful if their payments into the home covered altogether the cost of their board and lodging—but, as will be seen in the table of budgets given below, the weekly payments took a considerable proportion of the girls' salaries, they must be considered as being almost financially independent.

The total number of girls living on their own was thirty. Three girls from this group had parental subsidies in the shape of dress allowances. The rest were completely self-supporting. They received no direct subsidy from home, either in cash or kind. But the fact that they had homes behind them entered into their calculations to some extent. Any exceptional expenditure, such as a sudden doctor's or dentist's bill, was often paid by parents. This was particularly the case amongst girls whose salaries were either just above the health insurance limit, or who, though coming under the insurance scheme and paying weekly contributions, disliked appearing as panel patients. Holidays, in some cases, and week-ends nearly always, were spent either at home, or with friends or relatives. These were the only ways in which the girls received help from home. I think this group may be considered to be self-supporting.

The purpose of my inquiry was two-fold. First to discover the proportion of women in my sample who were self-supporting, secondly, to find out what was the cost-of-living for these independent people. The results of the second part of my investigation

are summarised in the following tables. As this section deals only with girls who are either entirely self-supporting, living away from home, or who, though at home, pay for their board and lodging, I have eliminated from the tables all the budgets of girls having dress allowances from home, or who are not contributing towards the household's expenses.

For the purpose of analysis it was decided to average the budgets, but as the extreme limits of income were very far apart—the maximum weekly income was £5 5s, the minimum £1 5s—to have attempted to produce an average budget from incomes that differed to such a degree would have resulted in obtaining averages of little meaning. The budgets have been placed in income groups, and an average budget has been made from each group. As the data thus obtained did not give a continuous frequency curve of incomes, discontinuous groups were taken. The budgets fell naturally into the following groups:

Weekly income	Number of budgets
25s and under 45s	11
50s „ 60s	7
60s „ 75s	11
80s „ 85s	4
100s „ 110s	5

TABLE I
Average Budgets of Income and Expenditure

Weekly Income	25s and under 45s	50s and under 60s	60s and under 75s	80s and under 85s	100s and under 110s
	s d	s d	s d	s d	s d
Rent	8 10	14 3	18 3	17 3	22 6
Light, heat	2 8	3 0	4 5	3 10	4 8
Food in	6 10	10 2	10 10	10 1	13 3
Food out	3 10	8 2	8 3	9 0	10 3
Fares	1 8	2 6	2 0	2 6	2 9
Insurance	1 5	1 2	1 3	—	—
Laundry	7	1 3	1 0	2 0	2 0
Sundries	1 8	3 4	5 0	10 0	10 1
All expenditure	27 6	43 10	51 0	54 8	65 6
Annual	£ s	£ s	£ s	£ s	£ s
Clothes	12 0	15 15	18 0	30 0	35 0
Holidays	7 15	8 7	11 0	20 0	22 0
Savings	—	—	4 0	5 0	11 0
Medical	—	—	—	5 0	5 0
Income tax	—	5	3 0	9 2	13 10
All expenditure	19 15	24 7	36 0	69 2	86 10

As the expenditure of the girls who lived at home differed in detail, though not in amount, from that of those who lived on

their own, for clarity of tabulation I have put their averaged budgets in a separate table (see Table II) As regards the details

TABLE II
Average Budgets of Income and Expenditure

Income	Weekly	25s and under 45s		50s and under 60s	
		s	d	s	d
Board at home		12	8	16	7
Lunch out		4	5	4	9
Fares		3	8	3	4
Insurance		1	0	1	3
Sundries		2	6	6	6
All expenditure		24	3	32	5
	Annual	£ s		£ s	
Clothes		15	10	24	0
Holidays		7	13	21	0
Savings		—	—	7	0
Medical		—	—	—	—
Income tax		—	—	—	10
All expenditure		23	3	52	10

of the budgets, rent includes payment for domestic service, and some laundry. It is the custom for landladies to provide linen and service in furnished rooms, and to include the charge in the rent. "Food in" covers the amount of food eaten for breakfast and supper. "Food out" includes lunches, tea and morning coffee. "Fares" covers the cost of travelling to and from work. "Sundries" includes all expenditure on toilet accessories, amusements, week-end travel, presents, and other miscellanea.

The most notable feature in the first budget (Table I) is the small amount spent on food. This is partly explained by the fact that nearly all the girls in this group were sharing rooms. Catering for two appears more economical than catering for one. Also lunch usually consisted of home-made sandwiches and a cup of coffee, sometimes food was supplied at cost price by the offices and stores where the girls worked. It is, however, very doubtful if these girls really do get enough to eat. The second budget shows an increase in all expenditure, as indeed one might expect, but, in the three remaining groups, expenditure on food and rent does not appear to vary very much with the size of the income. Round about £2 covers the cost of these items in all three budgets. The difference in expenditure is shown in the varying amount spent on clothes and holidays and sundries. The limit to the amount that a girl can eat is soon reached, but it is doubtful if her desire for clothing is ever satisfied.

In all groups there were some budgets that varied con-

siderably from the mean. Some girls who were sharing flats did all their own cleaning, and spent the extra money on furnishing. Others economised on rent, and spent more money on travel. Some spent little on clothes and much on amusements. In the lowest-salary group there was, however, but little variation.

A comparison of the budgets of girls living at home with those of girls living on their own does not bring out any remarkable reduction in the cost-of-living in the lowest salary group, but presumably the girls living with their parents get more for their money, by sharing in the family life, than do the girls who are living away. The girls in the second income group score considerably from the financial point of view by staying at home. The cost-of-living for them is so reduced relatively to that for girls with similar incomes living on their own that they have a considerable surplus to spend on clothes, etc. In fact, their expenditure on these items is almost in the same class as that of girls earning £4 a week.

As regards the method of living, it was found that girls with the smallest salaries (twenty-five shillings and under sixty shillings weekly) preferred to live at home, on the grounds of economy. Even when payment into the home and the additional cost of travelling were taken into account, this way of living appeared to cost slightly less than lodging in London. Furthermore, the daughter's weekly contribution was a considerable help in balancing the family budget. Parents encouraged the girls to stay at home. When the conditions of their work forced them to live away, they chose either small bed-sitting-rooms, which they shared with a friend, or they boarded in cheap hostels, sleeping in cubicles and eating in the common dining-room.

Living at home was not so popular amongst the girls in the upper salary groups (sixty shillings and under one hundred and ten shillings a week). Only three girls out of the twenty-two in these three groups lived with their parents. No average budget has been taken of the expenditure of these three girls, as explained above, two of them paid nothing towards their keep. It was thought that too few budgets were collected in this group to enable a representative average to be taken.

The girls who lived on their own in London, rented either bed-sitting-rooms or flats, the latter they shared with friends. The boarding-house habit, so commonly met with in accounts of nineteenth-century life, appears no longer to be popular. Most girls preferred flats, but lived in sitting-rooms, furnished, either because they had no friend to share with, or because they could

not afford the cost of furnishing. The girls bought and cooked their breakfasts and suppers, getting their mid-day meal at a restaurant. The cooking apparatus was usually a gas-ring—gas was supplied from a penny-in-the-slot meter. Bathrooms were shared with other inmates of the house.

Life in a flat was evidently very similar, though one had more freedom and more privacy. Cooking was easier, gas cookers being used instead of the ubiquitous gas-ring of the furnished room. The expense worked out about the same as renting a room, assuming the flat was shared between two people. The actual rent was lower, but service was more, and in some cases weekly instalments on the furniture bought on the hire-purchase system had to be allowed for.

The type of amusement found to be most popular with the girls in the lowest salary groups was cinema-going. Most girls managed to spend a shilling a week on the "pictures". Reading novels taken from the free libraries or the "Twopenny-book-shops" was the other source of amusement amongst girls who could spend only a few shillings a week on recreation. In the higher grades of income, riding, skating and theatre-going appeared to be the normal amusements. Dancing did not appear popular amongst any of the girls.

The type of holiday varied tremendously amongst those who had over £10 to spend. "Hiking" both in England and abroad, travelling with parents, staying at home, were all popular, but it was found that the girls who had £6 for their holidays nearly always went for a week by the sea, if they did not stay with relations. Everyone appeared to have some kind of holiday once a year.

Such was the information on the manner of living and the cost thereof to business women, obtained through my investigation. There is still much to learn about the life of the middle classes. Present-day statistical data are very inadequate on this subject. This small-scale inquiry is an informal attempt to throw some light upon the life of at least one section of the middle classes—"the black-coated woman worker".

RUTH BOWLEY

THE EQUILIBRIUM OF DUOPOLY

I PROPOSE a solution of the problem of duopoly in a perfect market ¹ on the arbitrary assumption that the particular demands, with which each duopolist is confronted, are linear functions

Represent the market demand by $F(x)$ and the particular demands by which the first and second duopolists are confronted by $f_a(x_a)$ and $f_b(x_b)$. It is required to determine the values of f'_a and f'_b , the cost functions of the duopolists and the market demand being known

The fall in the market price, due to the first duopolist increasing his output by Δx , is equal to the fall which occurs when the total supply is increased by an amount, Δx less the amount by which the second duopolist restricts output in consequence of such a fall in price

When the first duopolist increases output by Δx , the demand curve of the second duopolist moves to the left by an amount equal to Δx throughout its range. If this demand curve has a linear function, the gradient of the marginal revenue curve correspondent to it may be represented by the expression $2f'_b(x_b)$. ² Consequently, when the second duopolist's demand curve recedes by Δx throughout its range, his correspondent marginal revenue curve recedes by $\frac{1}{2}\Delta x$

If $\phi_b(x_b)$ represents the cost function of the second duopolist, his restriction of output consequent on the increase of that of the first by Δx is

$$\left\{ \frac{2f'_b(x_b)}{2f'_b(x_b) - \phi'_b(x_b)} \right\} \frac{1}{2} \Delta x^3$$

¹ The expression perfect market is used to indicate the rule of a single price and the absence of competitive marketing costs, in contradistinction to perfect competition when particular demand curves have infinite elasticity

² The gradient of the marginal revenue curve is equal to

$$\frac{d \frac{d(x_b y)}{dx_b}}{dx_b}$$

When the second differential is zero, this expression = $2 \frac{dy}{dx_b}$

³ In these figures the cost curve intersects the old marginal revenue curve (MR_1) at P and the new marginal revenue curve (MR_2) at Q . The horizontal distance between the MR curves is $\frac{1}{2}\Delta x$. The restriction of output in Fig. 1 is QR , that in Fig. 2 is PR . In Fig. 1 QR is equal to

$$\frac{\tan \beta}{\tan \alpha + \tan \beta} \cdot \frac{1}{2} \Delta x = \frac{2f'_b(x_b)}{2f'_b(x_b) - \phi'_b(x_b)} \cdot \frac{1}{2} \Delta x$$

In Fig. 2 PR is equal to

$$\frac{\tan \beta}{\tan \beta - \tan \alpha} \cdot \frac{1}{2} \Delta x = \frac{2f'_b(x_b)}{2f'_b(x_b) - \phi'_b(x_b)} \cdot \frac{1}{2} \Delta x$$

Thus the same expression serves for both cases

Consequently the net increase of output is

$$\left\{1 - \frac{1}{2} \frac{2f'_b(x_b)}{2f'_b(x_b) - \phi'_b(x_b)}\right\} \Delta x = \left\{ \frac{f'_b(x_b) - \phi'_b(x_b)}{2f'_b(x_b) - \phi'_b(x_b)} \right\} \Delta x$$

Therefore the particular demand for the product of the first duopolist is shown by the equation

$$f'_a(x_a) = F'(x) \left\{ \frac{f'_b(x_b) - \phi'_b(x_b)}{2f'_b(x_b) - \phi'_b(x_b)} \right\} \quad (1)$$

Of these terms, $F'(x)$, the gradient of the market demand curve, and $\phi'_b(x_b)$, the gradient of the second duopolist's cost

THE SECOND DUOPOLIST

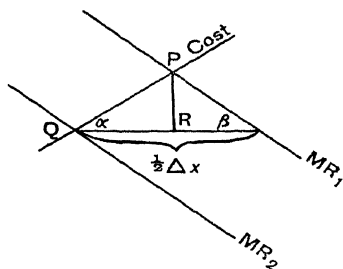


FIG 1
(Increasing Cost)

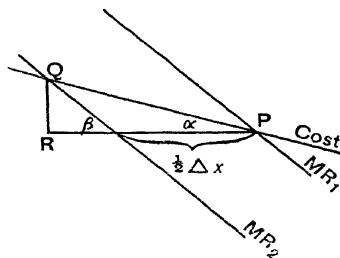


FIG 2
(Decreasing Cost)

curve, are known, f'_b is, however, unknown. But for this we have a second equation analogous to (1) above

$$f'_b(x_b) = F'(x) \left\{ \frac{f'_a(x_a) - \phi'_a(x_a)}{2f'_a(x_a) - \phi'_a(x_a)} \right\} \quad (2)$$

Thus we have two unknown quantities and two equations with two roots for each unknown.

If the gradients of the particular demand curves, f'_a and f'_b , are known, the determination of the duopolists' position becomes a simple matter. It is required to find the price (y) and the amounts produced by each duopolist, x_a and x_b . For these three unknowns we have three equations

$$y = F(x_a + x_b) \quad (3)$$

$$= \phi_a(x_a) - x_a f'_a(x_a) \quad (4)$$

$$= \phi_b(x_b) - x_b f'_b(x_b) \quad (5)$$

Equations (4) and (5) express the fact that each duopolist equates his cost to his marginal revenue.

If more complicated particular demand functions are allowed, the mathematics becomes less tractable. But there does not

appear to be any reason of economic principle for supposing that the equilibrium of duopoly would on normal assumptions be any less determinate

R F HARROD

*Christ Church,
Oxford*

FISHER'S REAL RATE DOCTRINE

THE "real rate" of interest which is generally associated with the name of Fisher is really a much older notion. Fisher's is, however, the best prevailing version of it, fully elaborated to explain industrial fluctuations. We have been brought up to respect it as *one* possible explanation of the phenomena of fluctuations. If not exactly that, at least the "real rate" doctrine has saved many a writer from intellectual agnosticism like a *deus ex machina*, and has been employed to extricate logic from blind-alley pursuits. No apology is, I hope, therefore, necessary for a somewhat searching examination of the worth of this doctrine as a tool of economic thinking.

Fisher's "real rate," to begin with, is not really a valuation of *interest* alone, corrected for price changes, his "real rate" is obtained by correcting *both the interest as well as the principal for price changes*. Thus Fisher's theorem, which is too well known to need any elaborate statement here, is that with the appreciation or depreciation (s) of money in terms of commodities, the "real rate" (R) may widely fluctuate, being (*cet par*) positive with rapidly falling and negative with rapidly rising prices. If r is the money rate of interest, then he evaluates that $R = r + s + rs$, or roughly, $= r + s$, the quantity rs being negligible. If s is negative and greater than r , R is also negative, and so on. This R , however, is made up of two elements: it contains in it the depreciation (or appreciation) of the money principal during the given period as well as the depreciation (or appreciation) of the money interest. Thus, for example, if the principal of £100 depreciate from 100 goods (supposing £1 = 1 good, originally) to 90 goods, and £5, the interest, depreciate from the expected 5 goods to 4.5 goods, the sum-total of the result is that the "real rate" has fallen to - 5.5 per cent. This, however, is the joint result of the depreciation of the principal (- 10 goods) and the depreciated value of the interest (+ 4.5).

It might be objected that this dissection of the "real rate" of Fisher is of no practical importance, because to the lender who

lends and to the enterpriser who borrows, what matters when prices are fluctuating violently is the sum-total of results, and not the separate elements in the "real rate" here distinguished. But such a view, besides ignoring the fact that clarity is in itself a good, errs in supposing that borrowed capital is always forthwith returned to the lender by the borrower. But this is not true. In the case of long-term, *i.e.*, quasi-permanent or permanent loans, like Consols and debentures, the principal is not returned at all, or, if returned, is done so after such a long time that the lender's foresight as to changes in prices could scarcely affect either his willingness to lend or the industrial situation.¹ Short-term loans are indeed repayable within a period of time during which fluctuations in the price-level might well cause real transfers from the borrowers to the lenders or *vice versa*, to the extent indicated by the "real rate." But the question arises, Is an average lender or borrower (and this question applies to both long as well as short lending) *actually* so hit or benefited to the whole extent of the "real rate"?² Almost always, when the loan, whether short or long, is returned, the lender *re-lends* the principal, he does not liquidate or spend it. If he did, he would find himself in a favourable position or otherwise in terms of commodities. On the other hand, the borrower who has returned a loan might be hit or benefited by changes in the value of money to the whole extent of the "real rate," if, on returning the loan, he winds up his business and takes a long holiday. As a matter of fact, he does nothing of the kind, he just goes and re-borrows elsewhere nearly the same amount that he repaid. Thus his gain or loss on the transaction is also imaginary. The fact is that money capital, whether short or long, is a *continuous* process, a mobile fund, it is continually embodied in real capital, either over long periods or over a series of short periods, according to the preference of the lender. Thus, the appreciation or depreciation of the principal lent and repaid, scarcely if ever affects the lender or borrower under ordinary circumstances. This does not mean, however, that the principal itself would not be intrinsically worthless, if there is a spectacular

¹ The fact that by selling his securities on the Stock Exchange a lender may recover his long-term capital at the current market price does not indicate that capital is *returned* by the original borrower to the lender. What happens is just a change of hands for the securities in question: what one lender loses, another lender gains and the transfer does not affect the borrowers *vis à vis* the lenders at all. Professor Fisher, we are told, once informed a League of Nations audience, that "in a period of six years in the United States alone capital to the amount of forty milliards of dollars had been transferred from one section of the community to another section." But he could have seen that this sort of operation is not relevant to what he calls the real transfers between borrowers and lenders.

rise of prices, as there was in post-War Germany, such a rise implies an inflation of the total volume of money capital. But assuming that the owner of the principal does not liquidate it by purchasing goods (and there is no need to make a contrary assumption), he will be hit only to the extent to which the money *interest* accruing to him falls in goods value. The debtors, indeed, might well repay their debts and avail themselves of the disparity between the nominal and market values of their investment. If, besides, subsequently there is a complete revaluation of the monetary standard, as there was in Germany, the door will be forever closed to the lenders possibly recouping their position in a future deflation of prices. But this is, evidently, true only of abnormal events, in normal times in which there are no such catastrophic depreciations followed by revaluations, but only cyclical fluctuations of prices, the creditors can always rely upon balancing their losses and gains arising from price fluctuations.

Apart from all this, the appreciation or depreciation of the money interest itself is an event of some actual importance to the lender, in so far as it is his regular income, which he probably spends, and to the borrower, in so far as it is an element of cost. If the concept of the "real rate" is thus confined to the evaluation of interest alone in terms of goods, it becomes a living and useful instrument, like the analogous concept of real wages. Thus conceived, the "real rate" can never fall to zero or become negative. For instance, in the example given above, the 10 per cent depreciation of the value of money (or, *i.e.*, roughly, a 10 per cent rise in the price-level) will bring about a "real rate" of 4.5 per cent only, and not — 5.5 per cent. Only the money rate of interest will be corrected for price-changes.

The representative borrower-enterpriser, who prospers on the difference, which is profits, between the costs and prices relevant to his products, is generally regarded as benefiting at the expense of the factors of production, when prices are rising. But you cannot say that there takes place a full transfer of real income to the extent of the windfall profit from those factors of production to the enterpriser and, in the same breath, insist that there is another transfer of the same size from the lender to the enterpriser again. The former transfer is the real aspect, the latter is an illusion. But the "real rate" freshly interpreted as the interest itself corrected for changes in the value of money, fits in with the former transfer, as interest, like wages, is also an element of cost.

Fisher's "real rate" doctrine, widely accepted by many economists if not as one possible explanation of cyclical fluctua-

tions, in some way to be a thing to be reckoned with, has thus on examination proved, as it stands, an inaccurate explanation. Fisher himself, who founded an original theory of capital on the basis of the income concept, would have been the first to see clearly wherein his treatment of the "real rate" was faulty if he had concentrated on the *continuity* of capital. The "real rate" doctrine has been applied in another allied topic, that of price stability, in which the "debtor-creditor relation" is held to be one of the primary considerations. Even there, we have, then, to extend the logic of the foregoing paragraphs and regard stability of *interest* payments in terms of goods as the essential fact. What damage (*e.g.*) a debtor country like Argentina would suffer in consequence of a continuous fall of commodity prices is confined to her interest payments, for to provide for these she will have to spare a larger part of her productive capacity. As for the principal repayments, she can very well avoid present damage by re-borrowing to the extent of the repaid loans. That is, in fact what any debtor country would do and does actually.

An important off-shoot of Fisher's theorem, which also needs to be revised in the light of what has been said above, is the existence, to which Fisher directs attention,¹ of "as many rates of interest expressed in terms of goods as there are kinds of goods diverging from one another in value." The method of approach is similar to that of Mr. Sraffa's "commodity rates" (*Vide* his Article in the *ECONOMIC JOURNAL*, March 1932). The distinction between Fisher's "real rates" and Mr. Sraffa's "commodity rates" is that while the former refer to the relation between two spot prices of a commodity at two different dates, the latter refer to the relation between the "spot" and the "forward" price for the commodity at the same given moment. Fisher recognises the difficulty of having an indefinite number of "real rates" expressed in terms of different commodities. He, therefore, proposes to evaluate a single "real rate" by reference to the general price-level, which is, of course, his Cash-Transactions Standard, derived from ($MV = PT$), to adopt Keynes's phraseology. This method, while it ignores the practical difficulty that the price-level relevant to the lender's expenditure and that relevant to the borrower's expenditure may considerably diverge, possesses perhaps the merit of simplicity.

It is Fisher's contention that in so far as the fall or rise in the "real rate" due to rising or falling prices can be *foreseen*, by the lenders and the borrowers, the money rate at which lending takes

¹ *Theory of Interest*, p. 42

place begins to adjust itself to the "real rate" in the upward and downward phases of the business cycle, but never quite catching up with it. Also that his "real rate" fluctuates more than money interest. (This, by the way, is natural, seeing that he has included the correction of principal as well as interest for price changes in his "real rate". Had he interpreted the "real rate" in the narrower sense here proposed, he would have found out that it fluctuates as much, though inversely, as the money rate.) The drift of the argument is that so long as the "real rate" is kept constant, prices will be steady. If there is a deviation from the normal position of the "real rate," prices will fluctuate. The inevitable conclusion drawn is that if, *after such a deviation*, the "real rate" is rehabilitated by raising or lowering the money rate sufficiently to bring it (*i e*, the "real rate") to its normal level, equilibrium of prices would be re-established. Now, while it is indeed true that if prices were stable Fisher's "real rate" would be at its proper or normal level, because neither the principal nor the interest could fluctuate in goods value, it is, as the foregoing argument should have shown, extremely doubtful if the *converse* proposition holds good. At any rate, it is unnecessary for the money rate to be raised or lowered so much as to offset the fluctuation in value not only of interest but also of principal.

The application of the "real rate" theorem to practical banking policy would thus seem to be rather hazardous. I mention this because some authorities appear to support such an extension of the "real rate" doctrine of Fisher to bank-rate policy. It is their notion, *e g*, that a 15.5 per cent money rate would have to be established, if, say, a "real rate" of 5 per cent is to be obtained when prices are rising at the rate of 10 per cent per annum and that this would keep the price-level steady, if 5 per cent is the interest-rate norm. The argument underlying the notion is characteristic for two reasons. In the first place, it believes that the rate of interest in its interactions on business conditions acts or may act in a somewhat compensatory manner, secondly, it supports the Fisherian "real rate" theorem. The former aspect ignores that prices are not moving on an independent plane of their own, but are intimately connected with movements of the interest rate itself. It is not necessary for the money rate to be raised to such stupendous heights at all, for the simple fact of the raising of the money rate will itself arrest the rising prices and slacken their pace. The prices and the rate will then move convergently towards equilibrium, the new rate continually bringing down the new prices.

It can easily be seen that even if the suggested version of the "real rate" is steadied, it would be enough. While, however, so small a change as is indicated by the revised version is sufficient perhaps to control prices, it is not certain that it is the rate which would maintain their stability

B P ADARKAR

BENTHAMISM AND PROTECTION

THE purpose of this short note is to turn the tables on the classical and neo-classical followers of Adam Smith. They have all without exception advocated the free trade policy as the only one in harmony with the correct principles of political economy, and this policy was identified with the classical doctrine to such an extent that its opponents had perforce to declare themselves enemies of the classical school *in toto*.

Yet the advocacy of the policy of free trade is not in perfect agreement with the fundamental postulates of classical economics. The corner-stone of the classical doctrine is Jeremy Bentham's felicific calculus. The calculus is explicitly stated in the *Fragment on Government*, but it is contained, implicitly, in all the works of Smith, Ricardo, Mill, and their successors. According to the felicific calculus man's behaviour is determined by his measurement of the utility of the several alternatives of conduct, and the dimensions of utility are six, of which the four cardinal ones are multiplicative, the remaining subsidiary ones being additive or subtractive. The modern names of Bentham's four cardinal dimensions of utility are Intensity, Duration, Probability, and Futurity.¹ The subsidiary dimensions are Purity and Fertility.

The doctrine of free trade is based on the analysis of Intensity only. Adam Smith is enunciating a half-truth when he says² "It is the maxim of every prudent master of a family never to attempt to make at home what it will cost him more to make than to buy." On utilitarian lines, the prudent master of a family should ask all of the following six questions instead of only the first

- 1 Is it cheaper to buy than to make?
- 2 Will the irksomeness of making last longer than the irksomeness of paying?
- 3 Is it certain that the desired object will be always obtainable in the future if it is bought instead of made?

¹ Cf. John R. Commons, *Reasonable Value*, mimeographed, Madison, 1924.

² *Wealth of Nations*, Book IV, Chap. 11.

- 4 Is it more expeditious to buy than to make ?
- 5 In how far is the advantage connected with buying as compared with making outweighed by the disadvantage of having to sell in order to acquire the means of payment ?
- 6 Will buying have the effect of increasing the future capacity to buy, just as making has the effect of increasing the future capacity to make ?

The dimension of Probability is possibly the most interesting of the six. It is well known that foreign trade is more risky than domestic trade, being subject to a greater assortment of disturbing influences. Undoubtedly, the policy of free trade, *when successful*, tends to increase the wealth of nations more than a policy of protection, but ought not the size of the factor of probability of success to be taken into account when the adoption of a trade policy is considered ?

Adam Smith wrote the *Wealth of Nations* before Bentham had codified the basic principles of the classical analysis. But it is astonishing that the bald acceptance of the free trade policy marred the work of all his successors, and especially that of Bentham himself. It could be said, in extenuation of the attitude of the classical economists, that their thinking was on static lines, and that the possibility of uncertainty is ruled out of the picture of static economy, but such a defence of the classical school would not be just to the defendant. The classical economists considered dynamics as well as statics. They were interested in practical legislation even more than in abstract theory.

List's defence of *Erziehungszölle*¹ is quite in accordance with Bentham's definition of Fertility. New industries are to be protected in order that they may develop to a point where they can withstand foreign competition. The wealth of the nation will be impaired somewhat in the early stage of the growth of such industries, but the benefits derived from their existence will ultimately repay the costs and leave a net gain. This process parallels the well-known example of the gourmand who undertakes the consumption of olives, finding their taste little to his liking at first, but hoping that ultimately he will enjoy them so much that his initial suffering will be more than repaid.

Carey's objections to free trade² fall chiefly under the headings of Probability and Purity. Free trade is harmful because it leads

¹ *Das Nationale System der Politischen Oekonomie*, Vol. I

² *Principles of Social Science*, Vol. I, Chap. 11

to the Centralisation of production in a small number of geographical areas a calamity such as a war or an earthquake or a pestilence may disrupt foreign trade, whereupon the importing countries will find themselves in dire straits. As against Centralisation, Carey advocates Concentration, *i.e.* the pursuit of all branches of production in every geographical area. Again, free trade is harmful because it prevents the inhabitants of a specialised geographical area from exercising their innate talents in branches of production well suited to their aptitudes, but ill suited to their physical environment. Thus, according to Carey, the policy of free trade infringes on the sway of the fundamental principles of Individuality, Association, Responsibility and Capacity for Progress.

Possibly all scientific criticisms of free trade which were ever made could be subsumed under one or more of the dimensions of utility expounded in Bentham's felicific calculus. And since the felicific calculus is the backbone of classical economics, the doctrine of protection is just as little or just as much a part of the classical system as the doctrine of free trade. It is a pity that the Founders were not more careful in distinguishing between theory and policy. If they had been, their successors would have been spared the tumult of the battles of "free trade" and "protective" "theorists". The problem of protection versus free trade is not a theoretical one. The battles should have been waged between statisticians, politicians, and other experts in questions of expediency, theoretical economists would have been well out of it.

KAREL F. FICEK

Stamford, New York

OFFICIAL PAPERS

Balances of Payments, 1931 and 1932 League of Nations
London, Allen and Unwin 7s 6d

RECENT figures concerning the balance of international payments of various countries afford some evidence of the effect of the depreciation of the gold value of currencies upon balances of international accounts (trade in goods and services, gold, long and short term capital transactions). Complete accounts for 1931 and 1932 are available for 18 countries, of which 9 had stable and 9 had depreciating currencies, the former recorded an active balance on account of goods and services of \$288 million

in 1931 but a passive balance of \$63 million in 1932, while the latter "improved" their balance by \$534 million

Moreover, there are signs that this movement has continued during 1933. In the course of the first nine months of that year, the gold and foreign currency reserves of the central banks in countries with depreciating currencies (not counting the United States) appear to have increased by over \$500 million gold, while those of countries with stable currencies fell by a similar amount.

A redistribution of liquid assets between the two groups of countries is thus taking place. Many countries with depreciated currencies buy gold or foreign exchange. The funds which thus move in the direction of certain countries on gold are used by them to meet the deficit in their current international transactions.

Undoubtedly the changes thus taking place imply an adjustment of previous disequilibria, but there is a danger of developments being carried beyond the point where normal economic relations between nations can be resumed and maintained.

One of the main achievements during this transitional period of adjustment, which now exceeds two years, is the equilibrium which a number of debtor countries have attained in their balance of payments and the ensuing improvement of their credit which has taken place without the help of foreign capital. Many of these countries have been able to convert their outstanding loans (domestic and foreign) and thus alleviate the burden of their debt. (*Communicated*.)

World Production and Prices, 1925-1932 League of Nations
London, Allen and Unwin 4s

THE Economic Intelligence Service of the League of Nations has published a substantial study of *World Production and Prices* (a continuation of the *Review of World Production* published last year). This study gives a general survey of the development of production of primary products (food-stuffs and raw materials), and of the activity of the most important industries all over the world, supplemented by a short review of the changes in the quantum of international trade—and, finally, an analysis of the movements of prices on world markets and in various countries. The study is set against the essential background of the years 1925 to 1929, but stress is mainly laid on the developments of the years of world economic depression, 1930 to 1932 and, as far as the available information permits, the first months of 1933.

The following indices extracted from this publication illustrate

the recent effects of world economic depression on the different branches of production and trade (average 1925-1929 = 100) —

	1929	1930	1931	1932
Total primary production	106	102	98	94
Agricultural production	104	103	103	102
Non-agricultural production	114	101	86	73
Industrial activity	111	100	90	77
Quantum of international trade	111	102	93	80

The lowest point of the depression in the world's productive activity appears to have been passed about the middle of 1932. Industrial production in general showed an upward tendency during the latter part of 1932. Towards the end of 1932 and in the course of the first quarter of 1933, however, a set-back was noticeable in a number of countries.

The fact that demand for most commodities has declined more than their supply is disclosed by the heavy accumulation of stocks. The fluctuations of these stocks throughout the period considered is analysed in two special sections which have been added to the volume. It may be stated roughly, that 1932 was the first year since 1925 when current production did not exceed current consumption.

The indices of the quantum of trade, given for purposes of comparison, show that world trade in both primary and manufactured goods considered separately has diminished more than world production of these two groups of commodities.

The chapter on price movements forms a natural corollary to the analysis of changes in production. Here attention is particularly directed to the course of prices since the widespread abandonment of the gold standard towards the end of 1931. It is shown that the rapid fall in gold prices continued practically without interruption until the middle of 1932. After a sharp upward movement following the Lausanne Conference, most price indices fell again during the last two months of 1932 and the greater part of the first quarter of 1933. In March 1933, prices in most countries stood at their lowest point of the depression. The abandonment of the gold standard by the United States, however, caused another upward tendency.

The price discrepancies between various groups of products continued to be aggravated during the course of 1932. Agriculturists have been affected with special severity by the fall in prices, as the goods they sell have fallen more in price than the goods they buy. The terms of trade have turned sharply against

States exporting crude food-stuffs and raw materials and importing finished products The discrepancies between wholesale and retail prices have persisted, and, contrary to most previous experience, investment goods have fallen less in price than consumption goods (*Communicated*)

CURRENT TOPICS

THE Annual General Meeting of the Society, held in the London School of Economics on April 20, was made an occasion for entertaining the members of the International Statistical Institute who were present in London for their own London Meeting and for the centenary of the Royal Statistical Society Members of the Society entertained the members of the International Statistical Institute at tea at 4.15, when a large attendance was present Subsequently Professor Edwin Cannan delivered his Presidential Address on "The Future of Gold in relation to Demand," which is printed at the beginning of this issue of the JOURNAL The Society then proceeded to the formal business of the year, after which a dinner was arranged for members of the Society and their friends, at which 136 were present, followed by a special performance of Ballet at Sadler's Wells Theatre This performance was specially arranged for members of the Royal Statistical Society, for the International Statistical Institute, and for members of the Royal Economic Society and their friends, of whom between 600 and 700 were present in all. The performance included Tchaikovsky's *Casse Noisette* and Vaughan Williams' *Job* (to designs after William Blake) Members of the Society were particularly pleased to have Mrs Alfred Marshall amongst them both at the Annual Meeting and the subsequent gatherings

THE Report of the Society for the year 1933 showed an ordinary income of £4,767 16s 10d and £660 9s 10d in receipts from life compositions The excess of income over expenditure for the year, together with receipts from compounders, came to £750

The Secretary reported that 423 new Fellows and Library members had been elected during the year, bringing the total membership of the Society to 4,414, including 938 compounders, as compared with 4,374 last year, 2,875 in 1927, and 694 in 1914. Professor Cannan was re-elected President of the Society for a third term, and Sir H Llewellyn Smith was added to the list of the Society's Vice-Presidents

PROFESSOR D H MACGREGOR has resigned, as from the publication of this issue, the joint editorship of the ECONOMIC JOURNAL, which he has held since the death of Professor Edgeworth in 1926. The Council have decided to revert for the present to a sole editorship-in-chief of the JOURNAL, which will be held by Mr J M Keynes, and they have appointed as assistant editor Mr Austin Robinson, Fellow of Sidney Sussex College, Cambridge, University Lecturer in the Faculty of Economics and lately Secretary of the Faculty Board.

THE following have been admitted to membership of the Royal Economic Society —

Agarwala, Dr B S	Haynes, W	Osborn, Sir Francis,
Barry, R Smith	Heptinstall, R H	K B E, C B
Beale, L B	Hoffman, H R	Parker, F E
Benzie, J M	Jeno, Dr A	Poojara, C M
Bryan, W O E	Kwapong, E A	Pratt, T A
Campbell, I B	Landau, M A J	Puri, A S
Chang, C C	Loewi, G F	Shakespeare, P C
Clappé, N	Maxton, J P	Tongue, W F
Clark, Prof G N	Mitra, C C	von Zeuner, F H
de Beer, J J	Mukerjee, N	Wharton, L E
Grundwald, Dr K	Nathan, Dr O	Wilson, F S
Grundy, J S	Nylassy, W T G	

The following have compounded for life membership of the Society —

Kapadia, Dorab B	Van der Horst, S T
Maru, A H	Wheatcroft, Miss M
Mighorisi, F	Yu, T Y
Reis, F T de Souza	

The following have been admitted to Library membership of the Society —

De Javasche Bank, Amsterdam
 Department of Finance, The Hague (Composition for
 fifteen years' subscriptions)
 Director of Statistics, United Provinces, Cawnpore
 John Winthrop House Library, Cambridge, Mass
 Tokyo University of Commerce Library

DR JAMES BONAR sends the following addenda to his Catalogue of the Library of Adam Smith —

The appearance in 1932 of the 2nd edition of the Catalogue of the Library of Adam Smith has had the same fortunate effect as followed the 1st edition in 1894, several more books "bearing the name-plate of Adam Smith or otherwise authenticated as his" have been reported to the editor. Such are —

The History of Mankind, by James Dunbar, 1780. Owner, Mr J A Petrie of Edinburgh, 1933

Life of Pythagoras, and two other lives, by Iamblichus, quarto, Kuster, Amsterdam, 1707. Owner, Mr Ed Marshall, informant, Dr Piero Sraffa, 1933

Ancient Inhabitants of the Northern Part of Great Britain and Scotland [esp the Picts], by Father Innes [Thos Innes, M A, of the Scotch College at Paris], two volumes, octavo, calf. London, 1729. Owner, Prof W R Scott of Glasgow, 1932

Isocrates—λόγοι ἅπαντες καὶ ἐπιστολαί. Basel, Guarinus, 1571. Owner, Mr G F Shove, Cambridge, 1932

Recherche de la Vérité, by Malebranche (Father) Nicolas. The first only out of three volumes, of the 3rd edition, revised and enlarged. Paris, Pralard, 1678. [The 1st edition is of 1674.] Presented to Glasgow University Library by Dr Stephan Bauer, 1932

The book-plate is high placed, as in Scot's *Swaggering State of the Scots Statesmen* (Catalogue, p 164), now recovered and owned by Glasgow University Library, its date of first printing now shown to be 1754, not 1750

History of the late Minority during the years 1762-5. Printed first in 1765 and reprinted by John Almon with additions in 1766, pp 332. London [Anon.], 8vo, old calf. Seen by Mr Henry Higgs in a bookseller's catalogue of 1933

THE British Association is to meet this year in Aberdeen from September 5 to 12. Professor H M Hallsworth will preside over Section F (Economic Science and Statistics) and will deliver his presidential address on "The Future of Rail Transport" on Friday, September 7. An important discussion on "Economic Planning" has been arranged for Monday, September 10, which will be opened by Professor D H Macgregor and summed up by Sir Josiah Stamp. Among those who have promised to partici-

pate in this discussion are Professor Alexander Gray and Professor W. F. Bruck. The session on Thursday, September 6, is to be devoted entirely to Scottish economic problems, and in this the contributors will be Dr. Hamilton on "Organisation of the Fishing Industry"; Mr. W. H. Marwick on "The Economic Development of Victorian Scotland," and Mr. E. D. McCallum on "Recent Economic Changes in Scotland."

Among other papers which have been promised there may be mentioned those of Professor F. W. Ogilvie on "The Significance of International Trade Accounts"; Professor Bruck on "Risk and its Significance in Modern Economy"; Mr. J. K. Eastham on some aspects of Regulated Marketing; Mr. R. B. Bryce on "The Wheat Problem," and Mrs. Cartwright on Statistical Investigations into Industrial Fluctuations.

In the afternoons special sessions are to be arranged on industrial problems, including a session devoted to the discussion of "The Need for a Technique of Economic Change" which will be opened by Sir Josiah Stamp. Further particulars of the arrangements can be obtained from the Recorder of the Section, Dr. K. G. Fenelon, College of Technology, Manchester 1.

In the Catalogue recently circulated to members of the Royal Economic Society particulars were given of the publications of the New York National Bureau of Economic Research, which had been published and were available on special terms to Members of the Royal Economic Society. It is now possible to add a further volume to this list, namely:—

German Business Cycles, by Dr. Carl T. Schmidt, pp. 283, 8 charts, 20 tables. Published at \$2.50—available to members of the Royal Economic Society at 7s. 6d.

Applications for this volume, as for other publications in the list lately circulated, should be sent, accompanied with a remittance, to Mr. S. J. Buttress, 6 Humberstone Road, Cambridge.

RECENT PERIODICALS AND NEW BOOKS

Journal of the Royal Statistical Society

- 1934 Part I *On some points relating to Vital Statistics, more especially Statistics of Occupational Mortality* G U YULE *The Interpretation of the Statistics of Unemployment* J A DALE *Recent Advances in Mathematical Statistics* J O IRWIN *Indian Agricultural Statistics* H SINHA

Economica

- FEBRUARY, 1934 (New Series, No 1) *Some Aspects of the American Recovery Problem* W BEVERIDGE *On Mediæval History as a Social Study* E POWER *The Economic Theory concerning Patents for Inventions* A PLANT *A Reconsideration of the Theory of Value Part I* J R HICKS *The Rôle of Time in Economic Theory* P N ROSENSTEIN-RODAN

International Labour Review

- FEBRUARY, 1934 *The Development of the Two-Shift System in Great Britain* H M VERNON *Social Insurance Medical Services* A. TIXIER *Forest Camps for Unemployed Young Men in the U S* H DUBREUIL *The Recent Evolution of Trade Unionism in the U S S R*

- MARCH, 1934 *The Regulation of Collective Employment Relations in Agriculture in Italy* B BIAGI *Collaboration between Placing and Unemployment Insurance Institutions* M SCHOELER *Invalidity, Old-Age, and Widows' and Orphans' Insurance at the Seventeenth Session of the International Labour Conference* I

- APRIL, 1934 *The New German Act for the Organisation of National Labour* (Ed) *Some Problems in the Construction of Index Numbers* J LINDBERG *Invalidity, Old-Age, and Widows' and Orphans' Insurance II* *The Codes of Fair Competition in the United States*

Population

- FEBRUARY, 1934 *Population Changes in England and Wales Families and Dwellings 1921-1931* E C RHODES *The History of Longevity in the United States* L I DIBDIN and A J LOTKA *Racial and Social Problems in the Light of Heredity* R R GATES *The Concept of an Optimum in Population Theory* L M FRASER *A Note on the Population of Egypt* M EL-DARWISH and EL-S AMI *Migration in the Twentieth Century* J COATMAN *Organisation for Research in Population* H P FAIRCHILD *Some Studies in Vital Statistics in Villages in Jugoslavia* O LODGE

Review of Economic Statistics

FEBRUARY, 1934 *General Economic Conditions in the United States* (Editorial) *British and French Economic Conditions* *Gold and Prices (Statistical Tables)*

Review of the Year 1933 J B HUBBARD and W L CRUM
The Automobile Industry F L HAYFORD *Devaluation* C J BULLOCK

Quarterly Journal of Economics

FEBRUARY, 1934 *Labor under the German Republic* W T HAM
Guaranty of Deposits under the Banking Act of 1933 G EMERSON
The Price of Silver and Chinese Purchasing Power T J KREPS
Prices under Competition and Monopoly some Concrete Examples
 V A MUND *Adam Smith, America, and the Doctrinal Defeat of*
the Mercantile System C R FAY *Professor Chamberlin's*
Theory of Limited Competition A J NICHOL

Journal of Political Economy

FEBRUARY, 1934 *John Lawrence Laughlin, 1850-1933* J U NEF
Agricultural Credit Legislation of 1933 H H PRESTON and V W
 BENNETT *Economic Evolution* *Dialectical and Darwinian*
 A L HARRIS *A Re-Appraisal of Cournot's Theory of Duopoly*
Price A J NICHOL *The Emergency Road Transport Act of*
 1933 R W HARBESON

APRIL, 1934 *The Failure of Monetary Policy to prevent the Depres-*
sion of 1929-32 L CURRIE *Business and the Law* M W
 WATKINS *Inflation and Enterprise in France, 1919-26* M J
 WASSERMAN *Workmen's Compensation Experience in Ohio during*
the Depression L LEVINE *Robinson's Economics of Imperfect*
Competition J A SCHUMPETER and A J NICHOL

American Economic Review

MARCH, 1934 *Liberal Theory of Constructive Statecraft* A P USHER
Economics and the National Recovery Administration J M
 CLARK *Budget Balancing and Economic Stabilisation* J B
 CANNING and E G NELSON *Emergency Budget of the U S*
 J W SUNDELSON *Concentration of Economic Power* W L
 CRUM

Supplement Papers and Proceedings of the Forty-Sixth
Annual Meeting of the American Economic Association *The*
History of Recovery W L THORP *Public Utilities in the De-*
pression E W MOREHOUSE, and others *The Transportation*
Problem H G MOULTON, and others *Marketing under Recovery*
Legislation R S VAILE, and others *Economics of the Recovery*
Act J DICKINSON, F A FETTER, and others *Measurement of*
Unemployment M H GIVENS, and others *Banking and*
Monetary Legislation E W KEMMERER, and others *The*
Rehabilitation of Agriculture H WALLACE, and others *Public*
Finance in the Depression F R FAIRCHILD, and others *Un-*
employment and Public Works S H SLICHTER, and others

Annals of the American Academy of Political and Social Science

JANUARY, 1934 *Banking and Transportation Problems* The first
 Part deals with reforms in the American Banking System, under

the titles of *Commercial Banking*, *Investment Banking Reform*, *The Place of the Federal Reserve System*, and *Problems of Monetary Policy*. The second Part deals with *The Railroads*, *The Waterways*, *The Pipe Lines*, and *The Highways*. By various authors

- MARCH, 1934. *Towards National Recovery*, a résumé of the Work of the *National Recovery Administration*, with special reference to *Business, Labor, and the Consumer*. By various authors

Wheat Studies

(Food Research Institute, California)

- FEBRUARY, 1934 *Price Relations between May and New-crop Wheat Futures at Chicago since 1885*

- MARCH *Environment, Heredity and Wheat Quality*. Climate is more important in determining wheat quality than soil or wheat variety

Revue d'Économie Politique

- NOVEMBER, 1933 *Le problème autrichien* V KIENBOECK *Du monopole bilatéral* F ZEUTHEN *Les émissions d'emprunts au-dessous du pair* A MARCHAL

- JANUARY, 1934 *La place rationnelle des syndicats dans les sociétés modernes* L DE BROUCKERE *Fluctuations économiques et rendements fiscaux* H LAUFENBURGER *La crise socialiste et le "neo-socialisme"* E LASKINE *Une innovation dans le commerce de détail les magasins à prix uniques* R PICARD *Les investissements dans l'économie capitaliste et dans l'économie planifiée* R MOSSE

Journal des Économistes

- JANUARY, 1934 *L'Industrie laitière* R J PIERRE

Schmollers Jahrbuch

- FEBRUARY, 1934 *Theoretische Bemerkungen zum nationalsozialistischen Wirtschaftsprogramm* C BRINKMANN *Freedom and the sense of value*. Freedom of competition and exploitation of the conjuncture. From the class-war to the struggle for existence. *Einige Bemerkungen über das Fur und Wider in der Problematik der Konjunkturbarometer* O WEINBERGER. A discussion, based on R Gater's criticism of the barometer of the Harvard Institute, of types of economic barometers, choice of range, definition of trends, causality and correlation. *Organisierter Kapitalmarkt* G BERKENKOPF. The necessity of organisation, criticism of some schemes of reform, especially of nationalisation, the faults of the present structure, and proposals for a new method. *Bevölkerungsgang und Landwirtschaft im ausgehenden Mittelalter im Lichte der Preis- und Lohnbewegung* W ABEL. *Wirtschaft und Wissenschaft* K DIEHL. An account and critical estimate of the fundamental ideas of the work of Gottl.

Zeitschrift für Nationalökonomie

- MARCH, 1934 *Wie können unmessbare psychische Grossen in das Gleichungssystem des wirtschaftlichen Gleichgewichts eingeführt werden?* A DILIMOVIC. The author analyses the traditional

equations of the equality of elementary and weighted marginal utility by the aid of which the subjective factor is introduced into the equations of equilibrium. He argues that these equations are founded on two unreal assumptions—first, the indefinite divisibility of economic goods, second, the measurability of marginal utility. In his view, the “conditions of maximum satisfaction” take the place of the traditional equations. “*Federal Reserve Act*” und *die amerikamsche Wahrungspolitik*. A CABIATI. A review of Laughlin’s book, continuing up to the present the examination of the main problems. *Die zeitliche Determinierung des Konjunkturbruchs*. V. BLOCH. An examination of the problem of the moment of reversal of the up-swing of the cycle. *Über eine Methode zur Berechnung der Elastizität der Nachfrage und die Kritik Prof. Amorosos daran*. H. SCHULTZ. A detailed explanation of the method of finding functional relationship, not between absolute prices and quantities, but between relative changes in them. *Zur Lohntheorie und Zinstheorie*. E. VAN GENECHTEN. *Zur Methodologie der Sozialwissenschaften*. F. KAUFMANN.

Weltwirtschaftliches Archiv

- MARCH, 1934 *Zur Psychologie der Weltwirtschaft und ihrer Krisis*. E. WISKEMANN. The crisis indicates a world change in psychology and sentiment. The author analyses the basis of economic and world-economic confidence. He also traces the psychological background of the politico-economic evolution of the nineteenth century, especially in England and Germany. An economy of the former kind cannot be restored. *Der Donauraum in der Weltwirtschaft*. E. HANTOS. *Der Automatismus der Goldwahrung*. E. FOSSATI. The author seeks to prove that the automatism of the gold standard was never a reality. He argues this by examination of the elements of time, credit, the quantity theory, and the “passive” rôle of central banks.

South African Journal of Economics

- MARCH, 1934 *Economic Method and the Conception of Competition*. W. H. HUTT. *The World Agricultural Crisis*. S. D. NEUMARK. *Tariffs and Economic Nationalism*. T. O. WILLIAMS. *Building Society Finance*. J. J. I. MIDDLETON.

The Sociological Review

- APRIL, 1934 *The Future Population of Great Britain*. G. C. LEYBOURNE.

The Ceylon Economic Journal

- DECEMBER, 1933 *The Shipping Conferences and the Deferred Rebate System in Ceylon*. M. FERNANDO. Argues that the Ceylon Shipping Conference has obtained a strangle-hold over the destinies of the island, which is a serious menace, and that the Government should illegalise the deferred rebate, as in Australia and the United States. *Four Years of the Depression*. B. B. DAS GUPTA. *Shipping Economics and some Aspects of Indo-Ceylon Trade*. H. M. DESAI. *Economic Problems of Democracy*. N. M. PERERA. *Indo-Ceylon Tariff References*. B. B. DAS GUPTA.

Kyoto University Economic Review

- DECEMBER, 1933 *On the Textiles Consumption Tax* M KAMBE
Saving as the Costless Process Y TAKATA *The Commoner Class*
of the Tokugawa Period E HONJO *The Meaning of the Theory*
of Value in Theoretical Economics K SHIBATA

Index (Stockholm)

- FEBRUARY, 1934 *The Development of Sweden's Foreign Trade and*
Shipping in 1925-1933

- MARCH, 1934 *Certain Aspects of World Trade in Graphic Form*

- APRIL, 1934 *Swedish Economic Conditions since 1925, in Graphic*
Form

Monthly Bulletin on Economic China

- JANUARY, 1934 *Land Tax in Chekiang* F L HO *Economic*
Statistics in China H D FONG *Statistical Appendices*

De Economist

- NOVEMBER, 1933 *Het loononderzoek van het Centraal Bureau voor de*
Statistiek N J POLAK The Central Bureau for Statistics has
 issued a report on the influence of wages on cost of production.
 Statistics always appear too late, especially those resulting from a
 special inquiry. But it does not follow that they are useless, they
 may be applied to another problem. In the present case, the
 problem which led to the compilation of these statistics is, for
 various reasons, no longer urgent, but the analysis of costs, etc
 may be applied to the question of devaluation. The figures in the
 report relate to 1929, they are here adjusted to 1933, and there-
 after the effects of a 25 per cent devaluation are considered on the
 costs of a number of industries. These are building, milk
 products, bread, sugar, pork, potatoes and vegetables, clothes, shoes
 and electricity. In conclusion, assembling the various results, the
 effect of a 25 per cent devaluation on the family budget is con-
 sidered. It is suggested that such a devaluation would not result
 in a rise of more than 5 per cent in the cost of living. *Industriele*
credietverleening in Groot-Brittannië J W TH COHEN STUART
 A discussion of recent developments in the relations of the banking
 system to industry in Great Britain, with special reference to the
 Securities Management Trust and the Bankers' Industrial Develop-
 ment Company.

- DECEMBER, 1933 *Vrouwenarbeid in crisistijd* ANNA POLAK In
 connection with an article by Marguerite Thibert, in *The Inter-*
national Labour Review, the writer discusses the effects of the crisis
 on the employment of women. Unemployment statistics, whether
 from official sources relating to unemployment insurance or from
 Trade Unions for various reasons fail to give a satisfactory answer
 to the question of the relative extent and increase of unemploy-
 ment among men and women. In explaining why statistics are
 unreliable on this point, it is claimed that unemployment among
 women may be presumed to be greater than is revealed by
 statistics. A wide survey of available information relating to most
 European countries is given, and on the two points more specifically
 raised it is claimed that (1) unemployment is not to be attributed
 to women's work, and (2) the prohibition of women's work would

be economically and morally disadvantageous rather than advantageous for mankind *Dr Emile Verviers' berekening van ons volksvermogen* D F TIMMER A criticism of the calculations with regard to the national wealth and the indebtedness of industry made by Dr Verviers in his article in the May number While the writer does not question the serious position of the "undertaking classes," he argues that Dr Verviers' calculations cannot be accepted as accurate

JANUARY, 1934 *Is de revalorisatie van zilver mogelijk?* W J L VAN ES On the relation of silver and gold The writer argues that the value of gold is affected by its use as "cover" (*dekking*), and that this use impairs the functioning of gold as a standard The influence which the "minimum cover" has on gold varies according to the economic ebb or flow At no time since 1929 has gold been stable in value The cause lies in the use of gold as cover, which introduces an element wholly alien to the nature of a standard In discussing gold, figures are given, showing an abnormal proportion sterilised in 1928 Debtors failed, in search of gold, which they themselves and the creditor states had sterilised Revalorisation of silver is an impossibility unless sterile gold is brought forth to fulfil a useful function, or unless silver is admitted in full measure as cover Stimulation of coinage of silver token currency, and increase of silver content would be too small and too slow a progress to raise the value of silver It is necessary to consider whether the changed price of silver is due to a change in the marginal value of gold or of silver It is argued that the marginal utility of silver has not really changed It is not revalorisation, but reappréciation that is required The word "revalorisation" is a cause of misunderstanding *De buitenlandse schulden van Duitsland* H C STROHMAYER An estimate and an analysis of German foreign indebtedness, arranged under nature of debts, creditor countries and payments due to various countries

Giornale degli Economisti

DECEMBER, 1933 *La crisi del dollaro* G DEL VECCHIO Having regard to the unsound industrial and financial policy pursued by the United States prior to 1929, and to the disastrous period of deflation which has succeeded, it may well be that measures of inflation represent at the present time a lesser evil than the continued process of shrinkage of the national increase and increase in the burden of debts *I due tipi fondamentali di indagine nell'ambito dell'economia finanziaria* R FUBINI *Sui metodi per lo studio della fecondità dei matrimoni* G MORTARA *Impressioni su alcuni aspetti dell'industria britannica* C PAGNI Some impressions derived from a visit to a number of centres of British industry

JANUARY, 1934 *Dell'automatismo economico al corporativismo* B BIAGI *I problemi dell'esportazione e della politica commerciale* SENATOR A ASQUINI, who is Under-Secretary of State for Corporations, contends that the only hope of increasing the possibilities of export lies in bilateral commercial treaties combined with adherence to the most-favoured-nation clause The Ottawa conventions, which discriminate against Italy, raise the question whether

it will be possible to continue to extend the benefit of most-favoured-nation treatment to the British Empire. The quota method is unsound both in principle and practice, and the most effective way of stimulating the export trade is to reduce costs of production. *Di alcuni effetti finanziari dell' ammortamento del debito pubblico*. E D'ALBERGO. A lengthy article dealing in considerable detail with the alternative methods of reducing or extinguishing the public debt by means of a capital levy or by a sinking fund spread over a long term of years. The writer criticises certain of the views of Professor Pigou on this subject. *La corporazione*. G BASSANI.

FEBRUARY, 1934. *Nuovi dati sulla natalità in Italia*. G MORTARA. I "codici" dell' industria nord-americana di leale concorrenza (fair play). F LUZZATTO. *Cenni di teoria della politica economica*. A BREGLIA. *Ancora in tema di curva di domanda*. V DOMINADÒ.

La Riforma Sociale

JANUARY-FEBRUARY, 1934. *Per la ripresa delle esportazioni*. SENATOR G AGNELLI, the President of the Fiat Company, argues that attempts to stimulate exportation by further lowering wages or by devaluating the lira are undesirable. He would constitute what would be in effect a state monopoly of exportation and importation, operated through the machinery of the Corporative organisation of the State. Exports would be sold at world market prices, but imports would be sold to Italian consumers at prices sufficient to enable exporters to receive a subsidy equal to the difference between export-prices and costs of production including a fair profit. *Debiti*. L EINAUDI. An attack on the monetary policy recently advocated by Professor Irving Fisher in his article "The Debt-Deflation Theory of Great Depressions," published in *Econometrica*, October 1933. 50, o 60? *Nel centenario di vita del dollaro*. PROFESSOR A CABIATI continues his destructive criticism of American monetary policy. *Banche d'emissione e banche libere (in tema di divagazioni bancarie)*. M MAZZUCHELLI. *In denaro al conduttore migliorante*. A LORIA. A plea for compensation for improvements for tenant farmers. *Utili da acquisto di azioni proprie*. V S MANGANO. *Il problema della montagna—Evoluzione e crisi dell' economia rurale appenninica*. M BANDINI. *I pensionati dello Stato*. F A RÉPACT.

NEW BOOKS

British

ABBATI (A H). Unclaimed Wealth Utilisation Committee, Geneva. Economic readjustment in 1933. the third series of Bulletins. P S KING. 8½". Pp xiii + 102. 6s.

ASHTON (T S). Economic and Social Investigations in Manchester, 1833-1933. a Centenary History of the Manchester Statistical Society. P S KING. 8½". Pp xii + 179. 5s.

BRIGGS (M) and JORDAN (P). Economic History of England. University Tutorial Press. 7¼". Pp xu + 524. 9s. 6d.

BRODRICK (J) *The Economic Morals of the Jesuits* Oxford University Press 8½" Pp 158 5s

COLE (G D H) *Studies in World Economics* Macmillan 8½" Pp vii + 285 12s 6d

DALTON (H), THOMAS (B), REEDMAN (J N), HUGHES (T J), and LEANING (W J) *Unbalanced Budgets a Study of Financial Crises in Fifteen Countries* Routledge 8½" Pp xi + 468 15s

DAVIES (D J) *The Economic History of South Wales prior to 1800* Cardiff University of Wales Press Board 9½" Pp xi + 171 8s 6d

DOCKER (F J) *Douglas Delusions a critical examination of the Douglas Credit Proposals* Sydney, N S W Angus and Robertson (London Australian Book Co) 7¼" Pp vi + 244 4s 6d

DUBEY (D S) and AGRAWAL (S L) *Elementary Statistics for Indian Students* Vol I Allahabad The Indian Press 8½" Pp 336 Rs 8

DUNKMAN (W E) *Qualitative Credit Control* London, P S King 8" Pp 345 15s

EINZIG (P) *The Economics of Rearmament* Kegan Paul 7¼" Pp 179 6s

FELLNER (F V de) *Communications in the Far East* P S King 8½" Pp 362 15s

FORD (P) *Work and Wealth in a Modern Port an economic survey of Southampton* Allen and Unwin 8½" Pp 223 10s 6d

GIFFORD (J L K) *The Devaluation of the Pound* P S King 7¼" Pp viii + 114 5s

GRANT (I F) *The Economic History of Scotland* Longmans, Green 7¼" Pp 295 5s

HARRIS (H L) *The Economic Resources of Australia* Sydney, N S W Angus and Robertson (London Australian Book Co) 7¼" Pp 125 3s 6d

HENDERSON (W O) *The Lancashire Cotton Famine, 1861-1865* Manchester University Press 8½" Pp xii + 178 8s 6d

HOLLIS (C) *The Breakdown of Money an historical explanation* Sheed and Ward 6" Pp 232 4s 6d

ISLES (K S) *Wages Policy and the Price Level* P S King 6" Pp 256 9s

London School of Economics *A London Bibliography of the Social Sciences* being the subject catalogue of the British Library of Political and Economic Science at the London School of Economics, the Goldsmiths' Library of Economic Literature at the University of London, the Libraries of the Royal Statistical Society and the Royal Anthropological Institute, and certain special collections at University College, London, and elsewhere First supplement, containing the additions to the Libraries named above, 1st June, 1929, to 31st May, 1931 London L S E 10" Pp xii + 596

MARQUAND (H A) *Industrial Relations in the United States of America* Cardiff University Press Board 7¼" Pp ix + 105

MORGAN-WEBB (SIR C) The Rise and Fall of the Gold Standard
Allen and Unwin 7 $\frac{1}{4}$ " Pp 187 5s

MURPHY (J T) Preparing for Power a critical study of the
history of the British working-class movement Jonathan Cape
7 $\frac{1}{2}$ " Pp 290 6s

NADLER (M) and BOGEN (J I) The Banking Crisis the end of
an epoch Allen and Unwin 7 $\frac{1}{4}$ " Pp 210 6s

New Survey of London Life and Labour Volume VI, Survey of
Social Conditions, (2) The Western Area (Text) Pp xv + 468
17s 6d Volume VII, Survey of Social Conditions, (2) The Western
Area, Maps 17s 6d P S King 8 $\frac{1}{2}$ " 2 vols

ORTON (W A) Prelude to Economics Pitman 6" Pp 285
5s

PAGE (F M) The Estates of Crowland Abbey a study in Manorial
organisation Cambridge University Press 8 $\frac{1}{2}$ " Pp xiv + 462
21s

PAISH (F W) and SCHWARTZ (G L) Insurance Funds and
their Investment P S King 7 $\frac{1}{4}$ " Pp x + 117 4s 6d

PLUMMER (A) International Combines in Modern Industry
Pitman 8 $\frac{1}{4}$ " Pp 191 7s 6d

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THE QUARTERLY JOURNAL OF
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THE ECONOMIC JOURNAL

SEPTEMBER, 1934

BRITISH OVERSEAS INVESTMENTS IN 1932 AND 1933

THE following paper is the sixth of a series, begun in 1928, embodying the results of annual surveys of British Oversea Investments. The detailed results relate to the year 1932. Owing to the large increase in default in 1932 and to the exchange movements following upon the abandonment of the Gold Standard by this country towards the close of 1931, calculations have been rendered more involved, and in consequence publication of the results of this study has suffered some delay. Nevertheless, as in previous articles, an attempt has been made to bring the subject-matter up to date by including provisional estimates of the main items for 1933.

The procedure adopted has remained the same as in previous years ¹. The securities examined in detail are

- 1 All bonds and stocks of Dominion, Colonial and Foreign Governments, States and Municipalities on which interest is payable in London,
- 2 All bonds and shares of registered British companies (as classified in the Stock Exchange Official Year Book) operating entirely or mainly abroad,
- 3 All bonds and shares of Dominion, Colonial and Foreign companies registered and operating abroad quoted and/or dealt in on the Stock Exchanges of the United Kingdom

These three categories constitute the main body of British investment abroad and at the same time that part which is most readily subject to scrutiny and accurate assessment. In order, however, to cover the field as far as possible, rough estimates have also been made to include the substantial amount of foreign securities held in the U.K. but not dealt in regularly in British markets, as well as other individual investments (*e.g.* in property, mortgages, etc.) abroad and the overseas assets of British companies whose main activities are confined to the United Kingdom.

¹ See *ECONOMIC JOURNAL*, September 1931 and June 1932.
No 175—VOL. XLIV

Estimates are again given of the *nominal* amount of British investments in the three classes of securities specified above, and some explanation is offered of the differences that emerge in comparison with previous years. No attempt, however, is made to relate these differences to the movements of capital on long-term account except for estimates of sinking fund and maturity repayments.

The year 1932 is now generally regarded as the year in which the depression was definitely checked in the United Kingdom. This view finds some support from the results in the present article, which indicate that the downward trend of income from overseas investments was less marked than in the two preceding years. On the one hand, earnings continued to reflect the substantial contraction in world trade, and bond interest was further adversely affected by budgetary and transfer difficulties resulting in increased default. On the other hand, the process of adjusting costs to prices had already made considerable headway and enabled many companies operating overseas to achieve a profit margin, at the same time, abandonment of the Gold Standard in September 1931 afforded handsome profits from gold mines and increased the sterling income derived from bonds payable in gold currencies.

Before passing on to detailed results, I should like once more to express my appreciation of the support received from Banks and Issuing Houses of London as well as from a large number of companies, both at home and abroad, whose readiness to supply the statistical information required has made it possible to renew this study and to improve year by year upon the accuracy of the results obtained.

GROUP I

Dominion, Colonial and Foreign (Government and Municipal) Loans

As explained in previous articles, interest paid in London, tax deducted, is taken to indicate United Kingdom holdings, and the amount paid free of tax, foreign holdings.¹ Table I shows the results of analysis by this method.

These percentages apply to a total which in the case of a limited number of foreign loans includes not only sterling bonds issued in London, but also sterling tranches placed abroad, so that the corresponding percentages held in the United Kingdom if taken for the former alone would be slightly higher than those

¹ For a full explanation of the use of this method see *ECONOMIC JOURNAL*, June 1930.

TABLE I

*United Kingdom and Foreign Holdings of Dominion, Colonial and Foreign (Government and Municipal) Loans*¹

	U K	Foreign
Dominion and Provincial Governments	88.9%	11.1%
Dominion and Colonial Municipalities	89.0	11.0
Foreign Governments	54.9	45.1
Foreign Municipalities	74.9	25.1

in the above table. This, however, does not alter the fact that the amount of these loans held abroad is and has been for some years very substantial. In consequence (see Table II), British investors have in reality suffered less from foreign default than would appear from the total of foreign loans outstanding. Indeed, the foreign holding is conspicuously large precisely in the case of those bonds on which default has occurred.²

Turning now to a consideration of the actual volume of British investments in Dominion, Colonial and Foreign loans, the following table shows the nominal amounts at the end of 1931 and 1932, the income received and the sums remitted to meet sinking fund requirements and maturities.

These figures call for some comment. New Issues in 1932

TABLE II

(£000's)

Type of Security	1931			1932		
	Capital	Income	Repayment	Capital	Income	Repayment. ³
Dominion and Colonial Governments	1,014,826	44,145	2,568	1,025,408	44,997	23,740
Dominion and Colonial Municipalities	88,620	4,260	2,939	83,531	3,922	3,061
Foreign Governments	301,875	15,715	10,139	289,375	11,984	12,032
Foreign Municipalities	35,562	1,800	621	33,585	1,474	853
Total	1,440,883	65,920	16,267	1,431,899	62,377	39,686

¹ Although the percentages in the above table are taken to represent United Kingdom and foreign holdings, actually they are the proportions of interest paid in London, tax deducted and tax free respectively.

² It is for this reason that in the case of Foreign Municipal bonds the proportion of interest paid in London subject to tax deduction has actually risen from 74.7% in 1931 to 74.9% in 1932, in spite of net sales by U K investors (See ECONOMIC JOURNAL, June 1933.)

³ The figures for repayment include sums received in the case of loans redeemed from the proceeds of new issues.

for account of Dominion and Colonial Governments amounted to £35 million Repayments, however, amounted to over £23 million And the net increase shown above is even a little smaller than the difference between these two figures, indicating some net sales of Dominion and Colonial bonds by United Kingdom holders to investors outside the United Kingdom At the same time it is worth noting that repayments by Dominion and Colonial Governments reached an unusually high figure in 1932—India alone accounting for nearly £16 million The comparable figures for 1930 and 1931 were respectively £8,288,000 and £2,568,000 It seems fair to suggest, therefore, that repayment on this substantial scale was somewhat fortuitous, assisted, in fact, in the case of India by an unforeseen export of gold which enabled the India Government to accumulate large sterling balances in London ¹

As regards Dominion and Colonial Municipal loans, repayments for the year (£3 million) fell short by £2 million of the reduction in United Kingdom holdings, suggesting that a net transfer had taken place from United Kingdom to outside investors ²

In the absence of new loans to foreign countries during 1932, the normal operation of sinking fund payments on existing loans would account for a reduction in the British holding of foreign Government and Municipal loans Such reduction has, as the figures show, occurred Moreover, in the case of foreign Municipal bonds, sales by United Kingdom investors to foreigners appear to have been conspicuous.

The continuous reduction over the last five years in the nominal amount of British capital invested in foreign loans, both absolutely and relatively to the amount invested in Empire loans, is shown by the following figures

TABLE III
British Investment in Empire and Foreign Loans
(£000,000's)

End of	Empire Loans	Foreign Loans	Total	Ratio of Foreign Loans to Total
1928	1,036	364	1,400	26 0 %
1929	1,061	351	1,412	24 9
1930	1,080	357	1,437	24 9
1931	1,104	337	1,441	23 4
1932	1,109	323	1,432	22 6

¹ Redemption operations of the Indian Government were also assisted by the funds received from a large sterling issue floated in 1932

² It is the practice of Dominion authorities to invest part of the sinking fund reserves held against internal debt in Dominion sterling loans As a result the amount of these loans held by them is gradually increasing with the steady rise in the internal debt

Thus from 1928 to the end of 1932 the amount invested in foreign bonds declined from 26.0 to 22.4 per cent

The decline in income resulting from foreign default in 1932 was only slight in proportion to total income owing to the predominance of Empire loans in British overseas investments. Thus total income was reduced from £65.9 million in 1931 to £62.4 million in 1932, this being entirely accounted for by the reduction in income from foreign bonds. It should be borne in mind, however, that in subsequent years some decline must also be anticipated in the rate of income from Dominion and Colonial loans following the extensive conversion operations which economic recovery in the Dominions and conditions prevailing in the London Money Market have rendered possible and which are still in progress. The average rate of income on Empire loans in 1932 was 4.4 per cent, as compared with 4.2 per cent on foreign bonds, but of course the average rate of interest on foreign loans, if fully remitted, is considerably higher. The next table shows the sums in default on foreign loans

TABLE IV
*Service in Default since December 1930*¹
(Government and Municipal Loans)
(£000's)

	Interest	Sinking Fund	Total
1931	1,453	1,095	2,548
1932	9,044	5,413	14,457
1933	9,544	7,745	17,289
Total since December 1930	20,041	14,253	34,294

¹ These figures relate to total loans outstanding, irrespective of the domicile of the holder

Thus interest and sinking fund due and unpaid to British and other investors since December 1930 amounted to £34.3 million (interest £20 million, sinking fund £14.3 million). As already explained (see p. 367), in view of the substantial foreign holdings of these loans the loss to British investors is considerably less, amounting to £19.3 million (£11.1 million interest, £8.2 million sinking fund). The increase in default in 1933 took the form chiefly of further suspension of sinking fund rather than of interest payments. Incidentally the transfer moratorium declared by Germany in July 1933 only affected coupons due in the second half of the year, while certain other countries, notably Greece, partially resumed interest payments. In view of the

economic and financial adjustments that have been made in the past few years by a number of countries, and the recent substantial improvement in prices, particularly of the primary products of debtor countries, it seems possible that further default may not be incurred on a large scale, although the German situation remains full of uncertainty

In spite of the extent of default in 1932, Table II shows that repayments to British investors in respect of all Dominion, Colonial and Foreign sterling loans actually increased from £16 3 million in 1931 to £39 7 million in 1932. There were, however, substantial maturities in 1932, particularly of India loans, while among foreign bonds the Brazilian 7½ per cent Coffee Loan of 1922 and the Japanese 5 per cent South Manchurian Railway Loan were called for redemption. Repayments in 1933 are provisionally estimated at £28 million.

British Commercial Capital Abroad

For the sake of convenience this term is applied to United Kingdom funds invested abroad otherwise than in Government and Municipal loans, though including in some cases securities which carry a Government guarantee, such as, for example, certain bonds of the Canadian National Railways.

Following the method hitherto adopted the investments falling under this heading are divided into

- (a) bonds and shares of companies registered in the United Kingdom,
- (b) bonds and shares of companies registered abroad ¹

GROUP II

British Companies operating Abroad

The investments here dealt with consist mainly of capital employed abroad under direct British control ²

Table V below records the nominal amount of British capital

¹ The British holdings in individual companies, covering about 50 per cent of the total capital of some 3,000 companies, have been ascertained, and the detailed results are arrived at by carefully selected representative samples. This method suffers, however, from certain unavoidable limitations in respect of bearer securities, nominee holdings, etc. These have been fully discussed in previous articles (see *Economic Journal*, September 1931).

² A British company is considered to be operating abroad if its plant and equipment are mainly situated abroad. A number of companies, however, particularly among those classified as "Commercial, Industrial, etc.," do extensive business both at home and abroad, and possess important fixed assets in the United Kingdom and overseas. The larger companies of this nature have been covered by these investigations, but no attempt has been made to estimate in detail the overseas assets of minor companies.

TABLE V 1

Nominal Capital invested in British Companies operating Abroad, Interest and Dividends received and Loan Capital repaid ² (£000's)

	Share Capital		Loan Capital		
	Amount	Dividends	Amount	Interest	Repayment
1931					
Dominion and Colonial Rails	1,600	54	27,300	1,448	31
Indian Rails	20,900	1,768	43,200	1,583	95
Indian Rail Annuities	—	—	25,600	1,272	1,156
American Rails	800	37	800	32	—
Foreign Rails	221,200	4,004	173,500	5,819	148
Banks	26,300	3,300	—	—	—
Breweries	4,700	320	800	38	—
Canals and Docks	1,400	—	2,200	145	15
Commercial and Industrial	65,600	1,924	20,600	712	478
Electric Light and Power	7,800	608	6,900	316	153
Financial, Land and Investmt	85,900	2,322	27,300	1,114	394
Gas	9,000	1,002	1,300	61	37
Iron, Coal and Steel	7,600	196	2,100	87	153
Mines	72,600	1,864	11,800	584	54
Nitrates	3,400	—	1,700	105	200
Oil	107,500	11,306	12,900	639	456
Rubber	82,000	218	5,700	157	60
Shipping	12,000	482	6,300	313	308
Tea and Coffee	38,600	1,735	2,600	122	26
Telegraphs and Telephones	23,900	1,657	4,300	190	61
Tramways	15,500	296	18,700	612	860
Waterworks	4,500	203	1,900	102	215
Total .	812,800	33,296	397,500	15,451	4,900
1932					
Dominion and Colonial Rails	1,600	—	27,300	1,415	40
Indian Rails	20,900	1,872	43,200	1,581	—
Indian Rail Annuities	—	—	24,300	1,138	1,290
American Rails	800	44	800	32	—
Foreign Rails	221,200	2,220	173,100	4,769	225
Banks	26,300	2,122	—	—	—
Breweries	4,700	377	600	38	270
Canals and Docks	1,400	—	2,300	145	—
Commercial and Industrial	65,600	2,154	19,800	545	761
Electric Light and Power	7,900	572	6,600	295	265
Financial, Land and Investmt	86,000	1,534	26,900	1,056	433
Gas	11,700	1,263	1,300	89	341 ^s
Iron, Coal and Steel	7,600	136	2,100	62	—
Mines	72,500	2,292	7,300	534	59
Nitrates	3,400	—	1,700	—	—
Oil	108,600	10,170	12,400	618	501
Rubber	81,300	200	5,600	140	54
Shipping	12,100	457	6,000	213	339
Tea and Coffee	38,600	1,226	2,600	107	26
Telegraphs and Telephones	23,900	1,744	4,300	181	7
Tramways	15,500	337	18,500	425	148
Waterworks	4,600	309	1,900	101	17
Total	816,200	29,029	388,600	13,484	4,776

¹ In this table the estimates of income represent dividends distributed and interest paid to British investors. For the purpose of calculations of the U K balance of payments, therefore, these figures would have to be supplemented by additional remittances effected by these companies to cover Head Office and other U K expenses or appropriations, or alternatively reduced by the amount of any outward remittances in cases where reserves invested in the U K have been drawn upon to meet expenses abroad.

² Repayments in this table, as also in Table VI, are the actual sums repaid as distinct from the nominal amounts.

³ Of this, £300,000 represents repayments of Share Capital.

invested abroad in various classes of enterprise. No deduction, however, has been made for the value of certain capital assets at home such as Head Office buildings in London possessed by some of the concerns in question.

Without new issues on any noticeable scale little change is to be expected in the nominal amounts held by British investors in the above securities since foreign holdings seldom exceed 1 per cent, the high rate of British income tax being a strong deterrent to would-be foreign purchasers of these stocks and bonds. The slight decline in the amount of loan capital outstanding reflects the automatic operation of sinking fund payments and maturities in 1932 as well as a certain amount of writing down of nominal values ¹.

Dividends received in 1932 declined by a further £4.3 million, the categories chiefly affected being Foreign Rails and Banks. Declines, however, were not as general as in 1931, payments being well maintained among the miscellaneous companies included under "Commercial, Industrial, etc.," while Mining dividends in 1932 already showed the effect of the increase in the sterling price of gold ².

The following figures, which also include a provisional estimate for 1933, illustrate the trend of dividend payments by British companies operating overseas.

Dividend Payments of British Companies Abroad

	Amount of Dividend	Percentage of Capital
1929	£67,674,000	8.4%
1930	58,966,000	7.1
1931	33,296,000	4.1
1932	29,029,000	3.6
1933 (provisional)	27,100,000	3.3

The provisional estimate for 1933 indicates a further decline of about £1.9 million in spite of the improvement in business activity. As already pointed out, the improved earnings of 1933 should be reflected in substantially greater dividends during 1934 ³. The higher prices obtaining for Tin, Tea and Rubber

¹ In many instances drastic reorganisation was accompanied by exchange of debentures into shares of lower par value.

² In important sections of the above table the rate of dividend declined between 1931 and 1932 as follows: Foreign Rails from 1.8 to 1.0 per cent, Financial, Land and Investment 2.7 to 1.8 per cent, Oil 10.5 to 9.4 per cent, Banks 12.5 to 8.1 per cent. On the other hand, increases occurred in the following: Mines 2.6 to 3.2 per cent, Commercial and Industrial 2.9 to 3.3 per cent.

³ From the point of view of the balance of payments, *net remittances* to the U.K. arising from the activities of British companies abroad were already more favourable in 1933 than in 1932, in spite of the decline in dividend payments.

during 1933 will, in many instances, make possible the resumption or increase of dividend payments

Interest on loan capital in 1932 was severely affected by transfer difficulties. Interest on the debentures of foreign rails declined from £5·8 million in 1931 to £4·8 million in 1932. As a result of default, non-transfer and conversion, the average income from the bonds and debentures of registered British companies operating abroad has declined from 4·8 per cent in 1929 to 3·5 per cent in 1932, *i.e.* by about 25 per cent.

GROUP III

Companies registered Overseas

This section covers British investment in the shares and bonds of Dominion and foreign companies (*i.e.* companies registered overseas) dealt in on the Stock Exchanges of the United Kingdom.¹ The degree in which these companies are financed by British capital varies considerably, some being virtually British-owned and controlled, while in other instances British participation is insignificant, as, for example, in the case of American Railroad companies. Unlike those dealt with in the previous section, many of the securities classified in Table VI below are quoted in a number of foreign centres, and mostly in New York, Paris and Amsterdam.² It follows that in a year of active Stock Exchange dealings, a considerable change may occur in the total amount held in the United Kingdom. Unfortunately, owing to the predominance of bearer securities in the case of foreign companies, a high degree of accuracy is not attainable in estimating British holdings in securities of this class.

For this reason and also because the samples obtained are necessarily less representative than those for British companies, it would be unsafe to attempt to draw detailed conclusions as to the changes that may have taken place in British shareholdings by comparing the totals obtained from year to year.³ The main part of the estimated decline in British holdings from £375 million in 1931 to £344 million in 1932 is, however, undoubtedly attributable to (a) the drastic writing down of capital and (b) to the considerably lower balance sheet values of shares of no par value.

¹ British holdings of "unquoted" shares and bonds are included in a rough estimate of all other forms of foreign investment given on a later page.

² South African mining shares and the securities of American railways and public utilities, Canadian power companies, etc., are conspicuous in this category.

³ These considerations do not apply with equal force to changes in income since these are influenced chiefly by the reduction or increase in earnings.

TABLE VI

*Nominal Capital invested in Foreign and Colonial Companies ,
Interest and Dividends received and Loan Capital repaid*
(£000's)

	Share Capital.		Loan Capital		
	Nominal Amount	Dividends	Nominal Amount	Interest	Repayment
1931					
Dominion and Colonial Rails	60,000	3,543	160,800	6,559	240
American Rails	18,000	1,014	9,500	412	165
Banks	27,300	1,837	18,000	1,158	282
Breweries	1,300	—	—	1	—
Canals and Docks	1,600	1,539	2,500	22	—
Commercial and Industrial	70,200	5,115	25,300	1,600	799
Electric Light and Power	13,300	956	32,200	1,701	1,097
Financial, Land and Investmt	24,600	656	25,100	1,370	485
Iron, Coal and Steel	13,000	560	8,900	474	161
Mines	68,200	4,008	4,100	273	241
Nitrates	3,000	—	5,000	271	241
Oil	24,500	566	—	—	204
Shipping	5,400	298	800	51	42
Telegraphs and Telephones	5,900	422	12,400	570	496
Tramways	9,500	501	11,500	531	158
Foreign Rails	29,700 ¹	1,639 ¹	65,400	3,096	974
Gas			400	22	—
Waterworks			1,800	81	—
Total	375,500	22,654	383,700	18,192	5,585
1932					
Dominion and Colonial Rails	62,500	1,616	159,600	7,088	227
American Rails	18,200	308	9,700	571	—
Banks	25,600	1,472	18,000	862	258
Breweries	1,300	24	100	5	—
Canals and Docks	1,600	1,946	2,800	1	—
Commercial and Industrial	63,700	5,613	24,400	1,321	602
Electric Light and Power	15,200	1,023	30,700	1,536	1,095
Financial, Land and Investmt	26,800	626	25,000	1,013	393
Iron, Coal and Steel	6,800	198	10,000	506	62
Mines	56,800	6,975	6,600	462	76
Nitrates	3,000	—	5,300	226	78
Oil	20,300	140	—	—	208
Shipping	6,600	342	800	47	52
Telegraphs and Telephones	6,000	494	10,000	558	31
Tramways	10,600	113	11,200	549	12
Foreign Rails	19,000 ¹	1,225 ¹	60,600	2,340	425
Gas			400	22	—
Waterworks			—	6	52
Total	344,000	22,115	375,200	17,113	3,571

¹ Owing to great preponderance of bearer securities in the categories Foreign Rails, Gas and Waterworks, the estimates for share capital and dividends in these three sections are only approximations

Dividends received by British investors in 1932 showed little change on balance from those of the previous year, although there were some important changes in individual categories. The

slump in railway traffic receipts was reflected in a sharp decline in distributions by American and Canadian railway companies, while dividends from investments in foreign and colonial banks also showed the effects of the depression. On the other hand, American and Canadian dividends were higher in terms of sterling in consequence of the depreciation of the pound, while Mining dividends increased by £3 million as a result of the higher price of gold ¹. The following figures illustrate the trend over the last five years of dividends accruing to British investors from holdings in foreign and colonial companies

Dividends on British Holdings in Foreign and Colonial Companies

	Amount of Dividends received	Percentage of Capital
1929	£42.0 million	9.6%
1930	31.7 "	8.1
1931	22.7 "	6.0
1932	22.1 ² "	6.4
1933 (provisional estimate)	22.6 "	6.6

In spite of the fact that remittances in respect of Gold-mining shares are estimated to have increased by £3 million and although dividend payments were resumed on other classes of capital in 1933, the provisional estimate for that year indicates little change on balance. To a large extent this is, of course, due to the fact that dividend payments in 1933 reflect the earnings of the previous year, but a further important consideration was the loss to Britain of the benefit of sterling depreciation after the abandonment of the Gold Standard by the United States and the subsequent depreciation of the American and Canadian dollars.

The decline in the rate of dividend from 9.6 per cent in 1929 to 6.6 per cent in 1933 was not as great as the corresponding decline from 8.4 to 3.3 per cent in the case of registered British companies (see p. 372). The latter, particularly Tea and Rubber producers, felt the incidence of depression rather earlier and more severely than foreign companies, but, as a result of the adjust-

¹ In individual sections of the above table, the rate of dividend declined between 1931 and 1932 as follows: Dominion and Colonial Rails from 5.9 to 2.6 per cent, Oil 2.3 to 0.7 per cent, Banks 6.4 to 5.7 per cent, and Tramways 5.3 to 1.1 per cent. On the other hand, increases occurred as follows: Commercial and Industrial 7.3 to 9.0 per cent, Mines 5.8 to 12.3 per cent, Canals and Docks 9.6 to 12.2 per cent.

² The final estimate for 1932 is larger than the provisional estimate contained in a previous article, the benefit from the higher price of gold having been greater than anticipated.

ments they have been able to make, are now in a better position to take advantage of an improvement in general conditions. For this reason a more rapid recovery in dividends may be expected in the case of British companies in the near future.

As regards interest on Loan Capital, Table VI shows that the favourable effect of exchange depreciation on sterling income from abroad was insufficient to offset the extension of default in 1932, there was a decline of about £1 million in this item. In this connection it is worth noting that the benefit of exchange depreciation was smaller in the case of bonds than of shares, as the indebtedness of the companies in question consisted largely of sterling loans. The effect of default in respect of suspension of sinking fund operations and postponement of maturities was both percentually and absolutely much greater in 1932.

SUMMARY.

In the following table the complete results for 1932 are summarised and compared with those of previous years.

TABLE VII

Nominal Amount of British Oversea Investment in Quoted Securities, Interest and Dividends received and Loan Capital Repaid
(£000's)

	Capital	Income	Repay- ment
1930			
Foreign, Dominion and Colonial Governments and Municipalities	1,437,000	64,666	19,681
British Companies Abroad	1,205,000	76,466	9,555
Foreign and Colonial Companies	783,000	51,043	9,697
Total	3,425,000	192,175	38,933
1931			
Foreign, Dominion and Colonial Governments and Municipalities	1,441,000	65,920	16,267
British Companies Abroad	1,210,000	48,747	4,900
Foreign and Colonial Companies	759,000	40,846	5,585
Total	3,410,000	155,513	26,752
1932			
Foreign, Dominion and Colonial Governments and Municipalities	1,432,000	62,377	39,686
British Companies Abroad	1,204,000	42,513	4,776
Foreign and Colonial Companies	719,000	39,228	3,571
Total	3,355,000	144,118	48,033

Income from British Overseas Investments.

In the previous table the nominal amount of British capital invested abroad in negotiable securities at December 1932 is put at £3,355 million. The income obtained by way of interest and dividends received is estimated to have been £144¹ million in 1932, equivalent to an average return of 4.3 per cent. To this must be added the amount derived from investments not included in the table, *i.e.* such as investments in property, mortgages, etc., and securities not dealt in on the London market. The amount of these investments in terms of nominal values was roughly estimated at £290 million in 1931, consisting largely of security holdings by Investment Trusts and Insurance Companies. An examination of the investment lists of a number of the former shows that during 1932 advantage was taken of the depreciation in sterling to effect a reduction in holdings of foreign and domestic dollar bonds, although this was to some extent offset by the acquisition of Australian dollar bonds yielding substantially more than the corresponding sterling issues. Pending a thorough examination, the amount of these investments at December 1932 is approximately estimated at £285 million.²

TABLE VIII

Income from British Oversea Investments 1929-33³

	1929	1930	1931	1932	1933
Foreign, Dominion and Colonial Governments and Municipalities	61.7	64.7	65.9	62.4	62.5
British Companies (registered in the U.K.)	56.0	76.5	48.8	42.5	40.6
Foreign and Colonial Companies (i.e. registered abroad)	61.7	51.0	40.8	39.2	39.6
Other Investments ⁴ (not covered by above)	18.5	16.8	13.2	12.3	12.2
Total	230.9	209.0	168.7	156.4	154.9

The forecast of £154.9 million for 1933, based on the estimate of British Oversea Investments as at December 1932, indicates

¹ This figure does not allow for remittances to meet Head Office expenses or for receipts or outgoings in connection with allocations to or drafts on reserves.

² No great accuracy is claimed for this figure, since it is intended to cover not only security investments but also a large number of miscellaneous overseas assets of companies and individuals to which in any case a nominal value can only be somewhat arbitrarily assigned.

³ The figures for 1933 are provisional estimates.

⁴ The average rate of income derived from these investments is assumed to be the same as that obtained from negotiable securities.

that the decline in the income from these investments during the past five years has now almost been checked and that for reasons given below it is probable that it reached its lowest level in 1933. It is remarkable that even in that year the average rate of income still appears to have been as high as 4·3 per cent, compared with an average rate of 6·17 per cent in 1929 —

Average Rate of Income on Long-Term Investments

	Amount of Income	Percentage of Capital
1929	£230·9 million	6·17%
1930	209·0 "	5·61
1931	168·7 "	4·56
1932	156·4 "	4·30
1933 (provisional)	154·9 "	4·26

This is due to the fact that of a total of £3,355 million of British capital invested in negotiable securities, £2,195 million, or very nearly two-thirds, consist of bonds and debentures, and although default has reduced the interest normally obtained on these bonds, the reduction is small compared with the decline in receipts arising from equity stocks. For 1934 the prospects of a greater income seem favourable. In spite of increasing trade restrictions, the decline in world trade has been partially checked, a greater degree of currency stability¹ has been attained and a substantial rise has occurred in the prices of important primary commodities produced by British companies abroad.² Thus not only has an increase in earnings been made possible, but the external indebtedness of many countries has at the same time been rendered less burdensome.

The outlook for an improved rate of income from overseas investments is undoubtedly better. On the other hand, the reduction in that part of these investments consisting of loan capital must through the operation of sinking fund and maturity repayments, together with the increasing repurchase by foreign nationals, continue until Dominion and foreign lending is resumed.

¹ The extent to which *de facto* stabilisation already exists is insufficiently realised by many who persistently advocate the stabilisation of the pound. The sterling area now comprises the Crown Colonies, Egypt, India, Australia and New Zealand, South Africa, the Scandinavian countries and the Argentine. Moreover, through the operations of the Exchange Equalisation Account a close relation has also been maintained between the gold currencies and the pound during the past six months.

² With the increase in earnings it is becoming the general practice to place a larger proportion of net profits to reserve and consequently dividend payments will not fully reflect the improvement.

on an appropriate scale. The modification of Britain's creditor position is illustrated by the following figures

	British Subscription to New Oversea Issues ¹	Repayment to the United Kingdom
1929	£96 million	£49 million
1930	98 „	39 „
1931	41 „	27 „
1932	37 „	48 „
1933 (provisional)	50 „	55 „

Thus, in addition to the moderate repatriation of capital through the sale of dollar bonds, etc., during the last two years, repayments alone by way of sinking funds and maturities have actually exceeded new overseas issues ². To some extent, no doubt, the incidence of the Treasury ban on foreign loans has been responsible for this trend, but even in the absence of this embargo, the flotation of new foreign issues is for obvious reasons hardly practicable at the moment. Moreover, although Britain's fiscal policy and the abandonment of the Gold Standard were effective in eliminating the adverse balances of 1931 and 1932, the improvement in domestic trade has necessitated larger imports of raw materials, with the result that the balance of payments has probably resumed its adverse tendency. While for the moment this is being met by an increase of foreign and Dominion sight deposits in London, there is nevertheless a certain danger that a persistently adverse balance may create conditions favouring further repatriation of long-term capital in addition to the normal reduction in total investments through sinking fund and maturity repayments.

ROBERT KINDERSLEY

¹ The figures exclude conversions, but not new issues, the proceeds of which have been used wholly or in part to effect redemption, as such repayments are already included in Table II.

² Repayments in 1933 were, however, exceptionally heavy.

FURTHER DATA ON THE NATIONAL INCOME

THE determination of the national income is not unlike the tracing of an asymptotic curve in geometry, where the exact straight line can never be attained, but where we are constantly approaching nearer to it, with the further proviso that after a certain stage further investigation must yield diminishing returns. But we are nowhere near that yet.

The Census of England and Wales (1931) Occupation Tables, the Occupations and Industries volume of the Census of Scotland, final reports on some industries from the 1930 Census of Production and provisional reports on the others, reports on the Agricultural Output of England and Wales and of Scotland, and the 76th Report of the Commissioners of Inland Revenue, all recently published, make it possible to bring all the basic information about the National Income up to date as far as 1931, and to prepare a good (but not yet final) estimate for that year. Then basing ourselves on this foundation we can carry forward approximate estimates of the National Income up to the present day, with some interesting results.

The economist may still grumble at the delays in the publication of the above documents, which have only just now made available information relating to the years 1930 and 1931. But there has been some speeding up during the last few years, as compared with, say, the publication of the 1924 Census of Production, for which we are all grateful.

Statistics of income tax assessments are now far more comprehensive than they have ever been before. The Finance Act (No. 2) of 1931, passed during the week of crisis which preceded Britain's departure from the gold standard, enacted among other provisions the lowering of the exemption limit for earned income to £125. This provision, though it must have been the despair of Inspectors of Taxes, has been of enormous advantage statistically. It has meant that the incomes of practically all salary earners and entrepreneurs have been brought within the net of assessment, even though the great majority of the small incomes are entirely exempted from tax by the operation of rebates and allowances.

One other change in methods of calculation will be made in

this article, namely, with regard to incomes from agriculture. The farmer alone of all classes is exempted from making a full return of his income, and is assessed on a conventional assessment which in fact seriously under-states his net earnings. As we can get full information from direct sources about the value of the net output of agriculture, figures of wages, rents, and profits earned in agriculture will not be included in the calculation of the national income as such.

The number of persons assessed to income tax under the operation of the present exemption limit was 8,200,000 in 1931-2 and 8,000,000 in 1932-3. This decline is accounted for by the falling assessments on wage-earners, and the number of non-wage-earners assessed may be taken at approximately $5\frac{1}{2}$ millions. The great majority of these are under Schedules D and E (profits and salaries), in which schedules the assessments of 1932-3 represent on the whole the incomes earned in the year 1931.

Omitting assessments on wage-earners and on farmers, assessable income earned in 1931 (Actual Income in the Inland Revenue report) is given as £2,031 million. This includes certain rents and tithes obtained from agriculture. The Ministry of Agriculture give £36.7 million as the gross rent of agricultural land in England and Wales for 1931. Reducing this to a net rent basis we get approximately £30 million for England and Wales, or £36 million for the U.K. To this should be added £3 million of tithe, giving £39 million.

The total of assessable income which forms our starting-point is therefore £1,992 million. We may deduct £120 million for unclaimed losses (which were clearly much higher than in 1928) and add £50 million for evasion and £40 million for the incomes of charities, etc. Rates and social insurance paid by employers, allowed as deductions before their incomes are assessed to tax, have been estimated at £115 million, and the amounts written off stocks of goods (also reckoned as a deduction for income tax purposes but not for national income calculations) at approximately £100. Government income from Post Office profits and international transactions was £27 million. Deductions must be made on account of interest payments on the National Debt (£259 million) and income due to foreigners (£25 million). We thus obtain a total non-agricultural income of £1,920 million.

The net output of agriculture may be calculated as follows. The value of agricultural produce sold off farms was returned as £240.4 million for Great Britain for 1930-1, or £252 million approximately for the United Kingdom. From this we must

deduct the materials purchased from outside the agricultural industry

Assuming that half the barley imports, three-quarters of the oats imports, and the whole of the maize imports are for agricultural use, we have the following figures for 1931

Materials purchased by Agriculture, 1930-1

Imports	(£m)	Home Production	(£m)
Feeding stuffs	20 0	Fertilisers	5 0
Fertilisers	2 0	Feeding stuffs ¹	17 7
Seeds	0 6	Machinery	1 8
Store and breeding cattle	8 4		<hr/> 24 5
	31 0		

¹ Including the net values added by milling

This gives a total of £55 5 million. We may add 15 per cent for the cost of transport and merchanting, giving £64 million, which we may raise to £70 million to include all other minor expenses of production which represent payments outside the industry.

We thus have a net output of agriculture of £182 million, which is distributed as follows (see below for wage total)

Distribution of the Product of Agriculture, 1930-1

	£m
Gross rent	43
Tithe	3
Wages	66
Farmers' profits	70

The farmers' profits represent an average income of about £2 8s per acre of crops and grass before providing for writing down of stock against falling prices. It seems fairly clear that farmers' profits are now higher than in 1931.

Our total of income is now **£2,102 million**. We have included approximately 5,250,000 assessable incomes, excluding all wage-earners. We must add to this some 100,000 to represent small farmers who are not at present assessed at all, and 250,000 for married women engaged in salaried and business occupations (Married women are not counted as separate incomes in the totals.) For comparison with the statistics of occupied population, we thus have a total of 5,600,000 incomes included in the assessments.

No satisfactory estimate is available of the number of unoccupied and retired persons in receipt of independent incomes above the tax exemption limit. There are over 100,000

unoccupied men between the ages of 21 and 65 (excluding students) One hundred and seventy thousand men below the age of 65 are described as retired, and 735,000 men of 65 and over are described as unoccupied and retired, in Great Britain 680,000 men of 65 and over were still in occupations An analysis of these men over 65 who are still "occupied" is of some interest 20 per cent are unemployed, 30 per cent are in managerial positions, 8 per cent are clerical and professional workers, 9 per cent agricultural workers, and the remainder manual workers in industry

It is clear from the above that some 65 per cent of these will be claimants for old age pensions, or 440,000 The total number of old age pensions paid to men in Great Britain in 1931 was just over 1,000,000 It thus appears that of the 735,000 unoccupied men over 65, some 175,000 were non-claimants for pensions, and the majority of these were probably in possession of incomes of over £100 a year (the exemption limit for unearned income)

Some of those in receipt of old age pensions will also be in possession of incomes from other sources, but the numbers in receipt of an assessable income will be small Pensions at reduced rates are paid to claimants under the Old Age Pensions Acts who are in possession of means above a certain amount, but these are paid to only 3 per cent of the claimants The income limit at which the reduced pension rates begin to operate is not very far removed from the income tax assessment limit

The *maximum* number of incomes of unoccupied men which have been included in the tax assessments will be

Unoccupied men under 65	100,000
Retired men under 65	170,000
Men over 65 not claiming pension	175,000
Pensioners with means	40,000
	485,000

The numbers involved are probably about 400,000, or 2.6 per cent of the adult (over 21) male population

For unoccupied females it is even more difficult to make an estimate The private incomes of unoccupied married females are assessed with those of their husbands The number of adult females unmarried or widowed is 6,226,000, and we can assume that a rather smaller proportion of these—perhaps 2 per cent—are in receipt of independent assessable incomes

The number of unoccupied persons assessed to income tax in

the U K is thus of the order of magnitude of 530,000 The figure of £2,102 million, given previously, thus covers the incomes of some 5,050,000 occupied persons

The scope of the Inland Revenue statistics enables us to obtain comprehensive and accurate totals of the incomes of all classes except wage-earners For the incomes of wage-earners, the Inland Revenue assessments cover only about a third of their numbers, and also, as the majority of those assessed are not, in fact, liable to tax, the statistics are perhaps not so carefully and comprehensively prepared as they are in the case of the incomes of salary-earners and business men As good statistics about wages can be obtained from other sources, the assessments on wage-earners have been omitted from the Inland Revenue totals

It should be noted that for statistical purposes the Inland Revenue regard shop-assistants, clerks and workers of similar status as salary-earners This point had, I think, escaped the notice both of Dr Bowley and myself in previous work, and is responsible for considerable ambiguities in the wage totals

The Inland Revenue statistics are therefore considered our source of information for the incomes of all salary-earners and entrepreneurs down to £125 per annum, and from knowledge of the frequency distribution of the incomes of small independent workers and of the lower-paid salary-earners we shall be able to make a fairly good estimate for the earnings of those receiving below £125 per annum in these classes

The 1931 Census of Population has introduced one considerable change in classification of industrial status Hitherto the classification has been into employers, employees and workers on own account Reflection will show that this leaves ambiguous the position of a large and increasing number of managers of shops, factory departments, etc, who are technically employed by a company but whose status is almost exactly the same as that of an independent employer The Census authorities, therefore, are no longer attempting to separate employers from managers, but have created the two new grades of Managerial and Operative persons These terms are considered to be self-explanatory

We may begin by effecting a classification on these lines of the occupied *employed* population of Great Britain as given by the Census of 1931 In this Census, for the first time, those out of work on the date of the Census are tabulated separately We may divide the class of operatives into three First, all the clerical, professional and commercial workers—the class which

is vulgarly but precisely defined as the white-collar class—who are described as salaried workers for statistical purposes. Secondly, workers in agriculture and fishery. Thirdly, all other manual workers.

The totals for Great Britain are as follows

Occupied Population of Great Britain, April 1931

(000's)

	Males	Females
Managerial	1,028	152
Working on own account	921	351
Clerical, commercial and professional workers	2,207	1,491
Agriculture and fishing (operatives)	892	44
Other manual workers	8,035 ¹	3,678
Unemployed (not included above)	1,968	557
Total	15,051 ¹	6,273

¹ Including some 250,000 men not shown in the Census owing to absence abroad with the Forces or in the Merchant Service

The first three classes total 6,150,000, or say 6,320,000 for U.K. Of these, 5,050,000 have already been included in the income tax assessments, leaving some 1,270,000 to be accounted for.

We may assume that virtually the whole of the managerial class is in receipt of incomes above £125. But we shall have some check on our calculation if we can make independent estimates of the numbers of people with incomes below £125 in the next two classes.

The numbers working on their own account, excluding smallholders, whose incomes have been reckoned by the net output method, total some 1,100,000, or 5.2 per cent of the occupied population. An inquiry by sample into the earnings of independent workers was made in the course of the Social Survey of Merseyside, and the results were published by Mr H. J. H. Parker (*J.R.S.S.*, 1932). The independent workers included represented 9 per cent of the working-class population but in the Survey the definition was different from the Census definition (cf *Social Survey of Merseyside*, Vol. II, p. 218). The Survey sample of 1 in 30 gave the incomes of 625 independent workers, excluding all those estimated to have incomes over £5 per week. The estimated number of independent workers (by the Census definition) in the Merseyside area in 1931 was 28,000, so it appears that over a third of the independent workers earned above the Survey income limit of £5.

Of the independent workers in England and Wales in 1931,

27 per cent were shopkeepers and 5 per cent were hawkers. Reweighting Mr Parker's figures as between shopkeepers, hawkers and other workers, and assuming that 35 per cent earned over £5 a week, we get the following income-distribution

Earnings of Self-Employers (Merseyside Area) £ p a

Under £78	22 8%
Over £78 and under £156	24 6
Over £156 and under £260	17 6
Over £260	35 0

Some 40 per cent of the total number appear to earn less than £125, with an average income of £72

Applying these figures nationally, we obtain a total of 440,000 persons, with an aggregate income of £32 million, outside the scope of assessment. There remain some 830,000 workers still to be accounted for, out of the 3½ millions of clerical, commercial, etc., operatives.

Data concerning the frequency distribution of salaries were collected by Prof Bowley in 1924. Unfortunately there is very little homogeneity between different sections of this large class of "salary-earners". The proportion receiving less than £125 varied, among males, between 3 per cent for teachers and 7 per cent for insurance clerks, to 15 per cent for industrial clerks and 21 per cent for commercial clerks. For male shop-assistants, the Ministry of Labour inquiry of 1925 into earnings in the drapery, grocery and butchery trades showed in each case that approximately 45 per cent were receiving under £125 per annum.

For female salary-earners the percentages ranged from 10 per cent among bank clerks and 14 per cent among teachers to 74 and 72 per cent among industrial and commercial clerks respectively. For female shop-assistants the above inquiry showed 90-95 per cent receiving below £125.

Of the male "salary-earners" as defined for this investigation, 20 per cent were shop-assistants and 25 per cent were professional men of whom practically all were receiving over £125 a year. The remainder probably came within the range covered by Professor Bowley's investigation. For females the proportions were shop-assistants 30 per cent and professional occupations (including teaching) 30 per cent.

In the range of occupations (other than teaching) covered by Professor Bowley's investigation, the median percentage of males below £125 was 14, and for females 54. Assuming that in the professional occupations 15 per cent of the females and

none of the males received under £125, and using the above figures for shop-assistants, we get for the whole class of salary-earners a weighted average of 17 per cent of the males and 54 per cent of the females in receipt of less than £125. This gives a total of approximately 1,200,000 as against the 830,000 anticipated.

This error is in the right direction. It shows the income tax statistics to be more comprehensive than might have been anticipated from independent data of the frequency distribution of small salaries and profits. This discrepancy represents, so far as can be seen, the income of men whose earnings are below £125, who are brought within the scope of assessment owing to their having in addition some small income from property, or by the earnings of their wives. The amount of income involved is about £40 million. Sir Josiah Stamp, working by a quite different method, gives £35 million (\pm £5 million) for 1924 as the amount of incomes below the then exemption limit (£150) brought into the scope of assessment by ownership of property, etc.

We shall therefore retain the figure of 830,000, as we may take it that the outstanding £40 million of income has already been included in the tax assessments.

A study of the frequency distributions given by Professor Bowley indicates approximately £70 as the average earnings of males in this class (under £125) and £92 of females. That the average for females should be higher than for males is an interesting statistical paradox, which can, however, be readily explained (cf. Bowley and Stamp, *loc cit*). The weighted average is £85 and the aggregate income £71 million.

To our previous total of £2,102 million, we must now add

	£m
Profits below exemption limit	32
Salaries " "	71
Property ¹ " "	35

giving a total of **£2,240 million**. This represents the whole national income other than wage-earnings.

An inquiry conducted by the Ministry of Labour in conjunction with the 1930 Census of Production is giving us the aggregate wage-bill of a large sample of firms in each industry for the year 1930, and also the actual average earnings (*i.e.* allowing for short time) of male and female workers in the various industries

¹ cf. Inland Revenue Report

in a certain week in October 1931. The scope of this inquiry is conveniently defined so as to include only manual workers, *i.e.* it does not overlap with the Inland Revenue statistics of salaries. Unfortunately, however, the Census of Production only covers manufacture, mining, and building, employing only some six and a half million manual workers out of over twelve million manual workers (defined as above) shown by the 1931 Census.

Other data must therefore be sought with regard to the earnings of approximately six million manual workers in non-industrial employment (transport, domestic service, agriculture, etc.). We must first of all define our numbers exactly by a comparison between the Census of Production and the Census of Population figures. The provisional returns from the 1930 Census of Production show 6,784,000 workers. Firms employing ten or fewer workers were excluded, and on the basis of the 1924 returns this is estimated to represent a 6.56 per cent deficiency. Returns were also outstanding from firms employing 165,000 workers, or 2.31 per cent of the total, in 1924. An addition of 8.87 per cent should be, therefore, made to the published figures for 1930.

In order to make comparisons between the Census of April 1931 and returns showing (on the whole) average employment figures for the year 1930, we must take into account the fact that the total amount of industrial employment was changing rapidly at that period. The number of *insured* workers in employment in industries within the scope of the Census of Production fell from an average of 6,767,000 in 1930 to 6,340,000 in April 1931, a decline of 6.31 per cent.

A final correction is on account of those absent from work through illness, representing probably an addition of some $3\frac{1}{2}$ per cent to the Census of Production figures. For comparison with the Census of Population, therefore, we must add 6.1 per cent to give the following figures.

Estimated Numbers Employed in Industry in Great Britain, 1931

(000's)

	Males			Females		
	Under 18	18 and over	Total	Under 18	18 and over	Total
Clerical and administrative workers	40	496	536	33	158	191
Manual workers	461	4,471	4,932	369	1,172	1,541

We are thus left to account for 3,103,000 male wage-earners and 2,137,000 female wage-earners outside the scope of industry

We cannot at present identify these workers industrially, but we can identify the principal outstanding occupations. Owing to the overlap between industrial and occupational classifications, a few workers shown under some of the occupational headings below may already have been included under the heading of manufacturing industry. The following figures are only intended to give a weighting for the calculation of an average wage for a class of workers whose total numbers are deduced from other sources

Numbers of Certain Classes of Non-industrial Workers in Great Britain, 1931

(000's)

	Males	Females
Railway running staff	276	1
Road transport workers	612	6
Seamen and dockers	184	1
Warehousemen	243	155
Postmen	75	2
Armed forces (exc. officers)	173	—
Domestic servants	87	1,364
Catering	81	107
Laundries	11	121
Office cleaners and caretakers	39	170
Total of above	1,781	1,927
Men serving abroad	250	—

Under these headings we can account for 65 per cent. of the males and 90 per cent. of the females

Very conveniently, the Ministry of Labour inquiry in connection with the Census of Production, referred to above, strayed a little beyond the scope of the Census of Production itself, and gave us figures of average earnings for two important groups—Tram and Bus Service and Carting and Warehousing. These averages are based on large samples. Average earnings in laundries were obtained for 1929, and special inquiries into average earnings in the catering trade, including the estimated value of tips and allowances in kind, were made in 1925 and 1929. Earnings on the railways (including those of the shop and artisan staff) were exactly ascertained by the Ministry of Transport. Railway wages are probably not representative of wages in the other trades included in this table, and so they are calculated as a separate total. (The shop and artisan staff of the railways are enumerated under the Census of Production.)

The average weekly earnings for male workers calculated by the Ministry of Labour under the two heads given above are 66s 10d for tram, bus and coach drivers and conductors, and 54s 5d for carters and warehousemen. The latter trade employs a considerable number of females at an average wage of 25s a week.

In the catering trade, 16 per cent of the male and 27 per cent of the female workers are under 21. The average earnings for adults, as given in the two inquiries, come to 63s and 40s respectively (all-inclusive). Taking 25s and 20s as the inclusive earnings of boys and girls, we obtain an average of 56s 11d for males and 34s 7d for females.

For postmen, where very few juveniles are employed, the average earnings may be put at 57s 6d. The same applies to seamen and dockers, where the averages may be taken at 62s and 60s a week (seamen's wages inclusive of keep). The average pay (including allowances and the value of keep) of men in the Forces is some 47s per week. For male and female domestic workers the average value of earnings (inclusive of keep) are taken at 60s and 30s per week. For charwomen, office-cleaners, etc., the average earnings will probably only be £1 a week. The average earnings of female laundry workers are approximately 25s a week.

The weights used in the calculation below are obtained from the previous table, including sailors, etc. absent on the Census day, and making a rough allowance for the overlap of occupational and industrial classifications.

Average Earnings of Non-industrial Workers, 1931

Males			Females		
	Weight	Average earnings		Weight	Average earnings
Tram and bus	3	<i>s</i> <i>d</i> 66 10	Warehousing	2	<i>s</i> <i>d</i> 25 0
Carting and warehousing	4	54 5	Catering	3	34 5
Catering	1	56 11	Domestics (regular)	12	30 0
Postmen	1	57 6	Charwomen, etc	6	20 0
Dockers	2	60 0	Laundries	3	25 0
Forces	4	47 0			
Seamen	2	62 0			
Domestics	1	60 0			
Weighted average		57 0	Weighted average		27 3

We are now in a position to assemble full information on wages

The final figures for the 1930 Census of Production are only available for the Textile, Clothing, Leather and Metal and Engineering industries. From these reports the aggregate wages paid in 1930 by firms employing over ten workers can be calculated directly. The reports also give the numbers employed by the smaller firms, and the Ministry of Labour collected separate returns of the average wages paid by small firms (which in nearly every case were well below those paid by larger firms). The total wages paid in a year were thus estimated.

For other industries only provisional figures of employment are available, and no reports on the aggregate wage bill. The employment figures are first corrected for outstanding returns, and then multiplied by the average weekly earnings for each industry as reported by the Ministry of Labour. Separate calculations are made for large and small firms. In converting weekly figures into annual a multiplier of 50.5 is used. This makes allowance for customary holidays, which holidays involve loss of pay to the majority of industrial workers.

In these industries allowance has to be made for changes in wage rates between 1930 and October 1931 (the date to which the figures of average weekly earnings refer). Particulars of these changes, and the aggregate gain or loss of income involved, are recorded by the Ministry of Labour for the principal industrial groups.

The figures which follow are inclusive of Northern Ireland.

Aggregate Wages paid in Industry, 1930

		£m
<i>Final figures</i>	Textiles	93.91
	Leather	5.62
	Clothing	53.73
	Metal and Engineering	210.44
<i>Provisional figures</i>	Brick, pottery, glass, chemicals	46.10
	Paper and printing	45.47
	Building and contracting	79.13
	Coal-mining	103.23
	Public utility and Government Industrial Establishments	76.17
	Other industries	102.47
Total		816.3
Railways (artisan and running staff)		83.4

Wages in coal-mining are not calculated by the Ministry of Labour, but the Mines Department figures covering 96 per cent of the coal raised are available, which show the number of shifts worked and the average earnings per man-shift

For non-industrial workers (other than agricultural) we have the general average weekly wages of 57s for males and 27s 3d for females calculated above. The numbers to whom these are applicable are 3,103,000 and 2,137,000 respectively for Great Britain, to which some 2 per cent may be added for Northern Ireland. In converting these weekly figures into annual an allowance must be made for sickness as well as holidays, and a multiplier of 48.7 is used. We thus obtain a total of £582 million.

In agriculture the aggregate paid in wages can be approximately obtained, though, as explained above, this total is not at present required for the calculation of the national income. For the period 1930-1 the Ministry of Agriculture calculated that average weekly earnings, including the value of all allowances in kind, overtime and harvest payments, were 37s 5d for horsemen, 39s 1d for stockmen, and 33s 8d for other agricultural workers. The relative numbers of these classes of workers are almost exactly in the ratio 1 : 1 : 5. For lads under 21 we may assume an average wage of £1, and for female workers (whose average wage is about 5d an hour) the same. We may assume further that casual workers obtain on the average 35 weeks' work per year, and that regular workers (other than horsemen and stockmen) lose on the average one week's work per year in unemployment, holidays, etc. These assumptions give us an average annual income of £89.6 for the regular adult male worker (£99.4 for stockmen and horsemen and £85.8 for others), £59 for casual men, £50 for regular lads and female workers, and £35 for casual lads and females.

Applying these to the average of the numbers recorded as employed in England and Wales in the different categories in June 1930 and June 1931, we obtain a total of £53.9 million for England and Wales.

In Scotland precise figures of agricultural wages are not available, but they are said to be distinctly higher than in England. The living-in system is more prevalent and unemployment is probably less. Moreover, the proportions of horsemen and stockmen are very much higher than in England. It will be assumed that on the average Scottish wages are 15 per cent higher than for the corresponding categories in England. This gives us a total of £9.1 million, or £63 million for Great Britain.

For the U K the total may be taken at £65 million Wages paid in fishery amount to some £2 million

Our information so far is as follows

<i>Wage Totals</i>	
	£m
Manufacture and mining (average of year 1930)	816 3
Railways (as at March 1931)	83 4
Other non-industrial workers (as at April 1931)	582
Agriculture and fishery (1930-1)	68

We require to reduce these to a uniform basis of the average of the year 1931, omitting agriculture in the calculation of a national income total The number of insured industrial workers in employment, which has already been given, 6,767,000 for the average of 1930, averaged 6 322,000 for 1931 For non-industrial workers the numbers in employment were 4,252,000 in April 1931 and 4,269,000 for the average of the year The Ministry of Labour Wage Index averaged 98 4 for 1930, 96 5 for the year 1931, and 97 for April 1931 The above total for manufacturing wages should therefore be reduced by 8 4 per cent to £748 million, while the other totals will be unchanged The total of wages for the year 1931 is thus £1,481 million, or £1,415 excluding agriculture, and the National Income **£3,655 million**

This total is £156 million larger than my previous estimate for 1931, which had been obtained from provisional wage and profit data, working on the basis of figures for 1928 and 1929 £100 million of this is accounted for by the raising of my estimate for wages In this last estimate, however, the basis is the figures of the occupied population as returned in the Census, and the numbers are exactly known Wages in the Census of Production industries, excluding Public Utilities, in 1930 show a fall of some £40 million on 1924 But the number of non-industrial wage-earners in work is estimated to have risen by approximately a million between 1924 and 1931 The numbers of insured persons in work was almost exactly the same in 1931 as in 1924, but there had been a very large movement within the total from worse-paid to better-paid employment For instance, miners and agricultural labourers, the two worst-paid classes of workers, numbered 23 3 per cent of all males in work in 1924 and only 17 8 per cent in 1931 Wage totals calculated by multiplying together the numbers in employment and the index number of wage rates will thus have a considerable downward bias, and the previously estimated wage totals for 1928 and 1929 will require an upward revision

The Board of Trade estimate shows that £170 million of this income was derived from abroad, to which we may add £20 million for stocks written down out of income. Home-produced income was thus £3,465 million, and the final figures for distribution among the factors of production were as follows

Distribution of Home-produced Income
(£m)

	1911	1924	1931
Wages	773	1,413	1,476
Salaries	215	741	851
Rent (land and buildings)	200	258	310
Profits and interest	624	989	828
Total home produced income	1,812	3,401	3,465
Income from abroad	200	185	190

The money value of the net output of industry, including small firms, was about 2 per cent less in 1930 than in 1924. The money value of the national income for 1930 is particularly difficult to determine owing to the great change in the value of stocks which took place in that year, but it was certainly distinctly higher than in 1924.

Certain comparisons between 1921 and 1931 showing the changes in the numbers in different occupations can be made. It must be emphasised that these figures refer to occupation and not to industry. The occupied population of England and Wales rose by 1,675,000. The number of farmers declined by 16,000, and of other agricultural occupations by 66,000. In manufacture the number of employers and managers increased by 10,000, and of workers by 331,000. Transport workers increased by 150,000. In the distributive, professional and service occupations the increase was 1,249,000. The remainder of the increase was in undefined workers.

Taking the 1931 national income as a base, we can carry our totals forward by the methods described in a previous article (ECONOMIC JOURNAL, June 1933). The provisional results are as follows

Increase or Decline from 1931 (Annual Average) Level
(£m)

	1932 (year)	1932 (second half)	1933	1934 (on basis of 1st qr)
Earnings + Profits method	- 32	- 70	+ 57	+ 184
Consumption + Investment method	- 43	- 90	+ 108	+ 210

The national income thus touched a minimum in 1932, was approximately £3,740 million in 1933, and 1934 has opened at a level of over £3,850. The money national income is still some way below the 1929 level, but the real income is now at practically the same level, in spite of the loss of foreign income and greater unemployment.

The second half of 1932 is shown separately because these six months definitely marked the worst point in the trade cycle. The recovery in the money national income since that point has been at the rate of £250-300 million per annum. This recovery is more remarkable still when we see that it has been achieved on the basis of a gradually falling price level. The price-index (*II*) applicable to all output fell from 93.3 in 1931 (1927-9 = 100) to 91.0 in the second half of 1932 and to 88.4 in the first quarter of 1934. The rise in real output has thus been at the rate of well over £300 million per annum.

Certain estimates of the amount of investment at these various dates can be made. For fixed capital investment (including all depreciation and maintenance) moderately good estimates can be made by a method given recently.¹

The gross totals (£m. per annum) were

1929	617
1931	565
1932 (second half)	513
1934 (first quarter)	558

It is estimated that as between the two last periods the balance of payments has become more favourable to the extent of perhaps £20 million a year. Investment in working capital, about which very little information is available, is estimated to have increased at the rate of some £60 million a year. (Seven hundred and sixty thousand additional workers were put into employment in a year and a half, and there are certain more definite figures available about the extent of restocking by retailers.)

It appears that the increase in production has been of the order of magnitude of $2\frac{1}{2}$ times the increase in investment.

The national income in 1932 may be estimated by my method at £3,620 million. It is interesting to compare this with Mr Feavearyear's estimates of consumption (*ECONOMIC JOURNAL*, March 1934). His total expenditure (£3,462 million) for 1932 includes direct and indirect taxation, rates, and contributions to social insurance. We may reckon that these all reappeared

¹ Cf. *London and Cambridge Economic Service Memorandum*.

in the form of services supplied by the State and Local Authorities, with the exception of the "transfer incomes" which totalled £567 million (*loc cit*, p. 46) and money saved by the State and Local Authorities (about £20 million net). We must also make an addition to Mr Feavearyear's total for work done by domestic servants, which is not apparently included in his definition of consumption, and which totals some £120 million. His total of expenditure thus comes to £2,995 million. It is very unlikely that as much as £600 million was saved in 1932, and we must try to find ways of closing the gap.

A certain estimate has been prepared which puts the total value of retail trade in 1930 at £2,470 million. This includes coal, newspapers, drink, cars and petrol, as well as the commodities whose inclusion is obvious. From the returns and index-numbers published by the Bank of England, the total for 1932 should be reduced to £2,260 million. These totals include indirect taxation. The retail sales included in Mr Feavearyear's total are

	£m
Food (excluding restaurants)	1,054
Coal and household requisites	134
Clothing (excluding laundry)	297
Liquor	232
Smoking	143
Cars and petrol	55
Drugs	21
Newspapers and books	47
Furniture	25
Miscellaneous	100 ?

Total 2,108

It appears that this total is too low. But in any case there is a very large total of services in addition to the value of goods retailed. The value of the services rendered by the State and Local Authorities (*e.g.* defence, education) is some £400 million per annum, excluding all transfer payments such as pensions and poor relief.

I am inclined to think that even the higher of the two estimates quoted above for the value of retail trade is too low, perhaps by as much as £200 million. But in any case there is a large total of services making up the remainder of the national income, and incorporated in the value of retail sales is a considerable element

representing distributive service rather than manufacture or agriculture

If we classify manufacture, agriculture, mining, building, gas and electricity as productive industries, and others as service industries, the following are the proportions contributed to the home-produced national income by "production"

1924	52.4
1929	52.4
1931	44

For U S A the following remarkable figures can be calculated from Kuznetz' officially prepared estimate (p. 26).

1929	40.1
1932	25.6

COLIN CLARK

EULER'S THEOREM AND THE PROBLEM OF DISTRIBUTION

It is characteristic of the development of economic theory that propositions which appear very simple when we have arrived at them should be first sighted through a haze of ambiguities and approached only by a labyrinth of devious controversy. Of this curious process the history of the famous "adding-up problem" provides a striking example.¹

As soon as it began to be asserted that factors of production are paid in accordance with their marginal products, the problem was posed. How do we know that, if each factor is paid its marginal product, the total product is disposed of without residue, positive or negative? Of course it is obvious that in any case the total product is distributed among the factors of production. The real question is: Can it be true that each and every factor receives a rate of reward equal to its marginal product? To some writers the theory of marginal productivity appeared as a grand moral principle which showed that "what a social class gets is, under natural law, what it contributes to the general output of industry."² But others were beset by doubt. It appeared easy enough to show that the self-interest of employers will ensure that the rate of earnings of each employed factor is equated to its marginal product.³ The difficulty lay with the entrepreneur. How can we be certain that, when the factors have been paid, the residue which is left over measures the contribution of the entrepreneur?

One answer, provided by J. B. Clark among others, was that in static conditions the entrepreneur makes no specific contribution, so that in fact the earnings of entrepreneurship are always tending to approach zero. Another was that since it is always open to an employer to take service as an employee, or for an

¹ This question, first canvassed in about 1890, is still "the subject of lively controversy." Professor Robbins (Introduction to Wicksteed's *Common Sense of Political Economy and Selected Papers*, Vol I, p. xi)

² J. B. Clark, "Distribution as Determined by a Law of Rent," *Quarterly Journal of Economics*, April 1891, p. 313. See also *Distribution of Wealth*, p. 3.

³ A necessary assumption which often fails to be made clear is that the supply of each factor to an individual employer is perfectly elastic, so that the price of a factor represents its marginal cost to the employer.

employee to set up in business as an employer, the earnings of an individual cannot depart from what he would receive as an employee, and what he would receive as an employee is equal to his marginal product. This argument, used in a more or less ambiguous form by many writers, was explicitly stated by Edgeworth¹ only to show that it is not perfectly satisfactory. A similar point of view is to be found in Marshall's application of the "principle of substitution" to the problem.²

An entirely different line of attack was adopted by Wicksteed, in the *Co-ordination of the Laws of Distribution*. Using "the mathematical form of statement" as a safeguard against unconscious assumptions, and as a reagent that will *precipitate* the assumptions held in solution in the verbiage of our ordinary disquisitions,"³ he set out the theorem derived from Euler that, where $P = f(a, b, c, \dots)$ is a homogeneous function of the first degree, so that

$$mP = f(ma, mb, mc, \dots),$$

then
$$P = a \frac{\partial P}{\partial a} + b \frac{\partial P}{\partial b} + c \frac{\partial P}{\partial c} + \dots$$

Translated into economic language, this proposition states that the total product is equal to the sum of the amounts of the factors, each multiplied by its marginal product, provided that conditions of constant returns prevail, in the sense that a given proportional increase in the amount of every factor of production would lead to the same proportional increase in the product.

When confronted with the precision of Euler's theorem, the argument from the principle of substitution is seen to prove at once too much and too little. It amounts to saying that when the employing factor can take service as an employed factor without any loss of advantage, then the normal level of profits for employers is equal to their marginal productivity as employees. Therefore what they actually receive, when profits are normal, is their marginal product. Thus, on the one hand it makes no overt proviso that constant returns prevail, and so appears to be too general. On the other hand, it leaves us in doubt as to what would happen in a case in which the employing factor has only inferior alternative occupations, and equally in a case in which profits are not normal. It was this vagueness which led Edgeworth to say that the theorem that the employer, as well as the employed

¹ *Papers Relating to Political Economy*, Vol. I, p. 30

² *Principles of Economics*, Book VI, Chapter VII

³ *Co-ordination*, Prefatory Note, p. 4

factors, receives a reward equal to his marginal product "is neither quite true nor very important" ¹

Euler's theorem leaves us in no such doubt. If constant returns prevail, and if each employed factor is paid its marginal product, then the remnant which goes to the employing factor is equal to its marginal product, whether profits are normal or not.

But at the same time the solution by Euler's theorem did not appear to be perfectly satisfactory. It seemed to imply that we are not to be allowed to believe in the principle of marginal productivity unless conditions of constant return can be shown to prevail in the real world ². This gave rise to an appearance of conflict between the mathematical and the economic line of reasoning, which, as the sequel will show, was completely illusory.

Wicksteed himself regarded conditions of constant physical returns as universal,³ but he was perplexed because the "social product" of an industry in terms of satisfaction obviously does not increase proportionately to the factors of production employed by the industry, nor does the "commercial product" of a firm increase proportionately to the factors employed by the firm. He suggested an ingenious method for surmounting the first difficulty. The consumers also might be regarded as a factor necessary for the production of satisfaction ⁴. Then, if each factor in an industry, including consumers, is increased in a given proportion, the satisfaction produced will be increased in the same proportion, and the conditions of Euler's theorem will be fulfilled. But even this expedient will not serve to meet the second difficulty, and Wicksteed realised that for a monopoly, or for a firm controlling an appreciable proportion of the output of a commodity, conditions of constant returns in value of product cannot obtain ⁵.

He was therefore obliged to confine his discussion to conditions of perfect competition, and he asserted that, assuming competition to be perfect, constant returns to the individual concern must prevail universally "equally in Robinson Crusoe's island, in an

¹ *Papers*, Vol II, p 338. See also Chapman, "Remuneration of Employers," *ECONOMIC JOURNAL*, December 1906, p 528.

² For most of the contemporaries of Wicksteed (though not, I think, for Marshall) the "theory of marginal productivity" was a formulation of a somewhat mysterious law of nature. For the modern economist it is merely a series of self evident propositions displaying the implications of the initial assumption that the individual employer acts in such a way as to maximise his profits. It is this fundamental difference in point of view which gives what appears to the modern reader such a perverse and fantastic character to the controversies surrounding the "adding-up problem."

³ *Co-ordination*, p 33.

⁴ *Ibid*, p 34.

⁵ *Ibid*, pp 35-6.

American religious commune, in an Indian village ruled by custom, and in the competitive centres of the typical modern industries." ¹ This solution of the problem was met by Edgeworth with mockery rather than argument,² and by Pareto with the objection that it is illegitimate to assume constant returns in terms of physical product ³

Wicksteed retreated in face of this criticism, withdrew the argument of the *Co-ordination*,⁴ and substituted for its heroic precision a very cloudy passage in the *Common Sense of Political Economy* ⁵ Professor Robbins has pointed out,⁶ however, that at heart he was impenitent and continued to make use of the argument of the *Co-ordination* in his lectures to University Extension classes ⁷ some time after Pareto's criticisms had appeared

Meanwhile Walras had published a "*Note sur la réfutation de la théorie anglaise du fermage de M. Wicksteed*" ⁸ While acclaiming him as a kindred spirit for his use of precise methods, and congratulating him on his refutation of the English theory of rent, Walras complained of Wicksteed's failure to take any notice of his own contribution to marginal productivity theory ⁹ Following a suggestion by Barone, Walras criticised Wicksteed for postulating a homogeneous production function of the first degree, but showed that Wicksteed's result follows from the axiom that costs are at a minimum under perfect competition ¹⁰

Walras (like Pareto and many subsequent critics) implies that Wicksteed had merely overlooked the possibility of increasing returns due to economies of large scale to the firm. In the present context "increasing returns" means a state of affairs in which an equal proportional increase in each factor would give

¹ *Co ordination*, p. 42

² *Papers*, Vol I, p. 31

³ *Cours d'économie politique* (1897), Vol II, p. 83 note, and "Anwendung der Mathematik auf Nationalökonomie," *Encyclopädie der Mathematischen Wissenschaften* (1904), Vol I, Part II, p. 1117 note

⁴ *Common Sense*, Vol I, p. 373 note, and Review of Pareto's *Manuale*, *ECONOMIC JOURNAL*, December 1906, p. 554 note

⁵ *Common Sense*, Vol I, pp. 370-373

⁶ *Ibid.*, p. 21

⁷ *Ibid.*, Vol II, p. 862

⁸ Recueil publié par la Faculté de Droit, Université de Lausanne, 1896

⁹ The peevish egoism of Walras contrasts unfavourably with the modesty and single mindedness of Wicksteed

¹⁰ Pareto accused Walras of the same error of which Walras accused Wicksteed. We have here started a hare which it would take too long to pursue. For the history of this dispute, which contains some entertaining incidents, the reader is referred to Professor Schultz, "Marginal Productivity and the General Pricing Process," *Journal of Political Economy*, October 1929

a more than proportional increase in the product. Clearly where economies of large scale are present, increasing returns in this sense will prevail. But Wicksteed had not forgotten this obvious fact. His error was far more subtle. He rejects "the crude division of the factors of production into land, capital and labour," and maintains that "we must regard every kind and quality of labour that can be distinguished from other kinds and qualities as a separate factor."

Still more important is it to insist that instead of speaking of so many £ worth of capital we shall speak of so many ploughs, so many tons of manure, and so many horses, or foot-pounds of power. "On this understanding," he writes, "it is of course obvious that a proportional increase of all the factors of production will secure a proportional increase of the product."¹ Now economies of large scale can only arise from the existence of an indivisible productive unit which is not being used to its full capacity.² On Wicksteed's plan such a unit would be regarded as a single factor of production. Thus a firm which is subject to economies must be employing the whole of at least one indivisible "factor." The smallest increase in output that can then be made without altering the proportions of the "factors" is an increase of a hundred per cent, and the marginal productivity principle cannot be applied. In order to consider the effect upon output of a small change in the amount of a factor, it is necessary to define the factors in a manner at least sufficiently crude for each factor to be finely divisible.³ Wicksteed had not gone astray because he had ignored the existence of economies of large scale, but because in his endeavour to define the factors in such a way as to eliminate the possibility of increasing physical returns he had accidentally eliminated the possibility of defining the marginal productivity of a factor. When the factors are divided on a plan which makes marginal analysis applicable to them, the possibility of increasing returns reappears.⁴

¹ *Co-ordination*, p. 33

² Cf E. A. G. Robinson, *Structure of Competitive Industry*, p. 25

³ It must, however, be conceded to Wicksteed that, strictly speaking, it is impossible to reduce a group of non-homogeneous productive units to a common term so that they can be treated as a single factor. Any statement about the marginal productivity of a "factor" which is not perfectly homogeneous cannot be perfectly accurate. I should like to take this opportunity of pointing out that the device suggested in my *Economics of Imperfect Competition* (p. 332) for getting over the difficulty by constructing "corrected natural units" is completely worthless.

⁴ The reader will perceive that the above treatment of this problem is superficial, but I must beg him to let it pass, for if we were to turn aside now to explore this territory we should certainly be benighted before the end of our journey.

Mr J A Hobson, some years later, made the existence of economies of large scale the basis of a grand attack upon the whole marginal productivity principle,¹ which was very inadequately answered by Marshall in the well-known footnote about shepherds.² Mr Hobson constructs a numerical example in which there are increasing physical returns to the individual productive unit up to a certain output, and beyond that output diminishing physical returns. He shows that where increasing returns prevail, the marginal product multiplied by the amount of the factor³ is greater than the total product, and declares that the notion that factors are paid their marginal products is therefore completely nonsensical. He goes on to argue that the individual concern will consist of such an amount of factors that average productivity is at a maximum, and points out that the earnings of the factor is equal to its average product.

Marshall dismisses this argument with the remark that "he appears to be mistaken." But clearly Mr Hobson was right, with perfect competition and normal profits (these are postulated, though somewhat vaguely) the average net productivity of each factor is at a maximum, and is equal to the wage of the factor.⁴ Where he went wrong was in denying that marginal productivity also is equal to the wage.⁵ The reason why he overlooked this fact is rather curious. The following is one of his arithmetical examples (labour is the only factor employed) —

No of Men	Total Product	Average Product	Marginal Product
1	10	10	—
2	22	11	12
3	37	12½	15
4	60	15	23
5	72	14	12

From this he argues that production will be carried on by groups of four men, who will receive a wage, not of 23, which is the marginal product of a fourth man, but of 15, which is the average product. It is the crudity of his arithmetical example that has betrayed him.⁶ If the average product of four men is 15, and the marginal product 23, average productivity must still be rising at

¹ *The Industrial System* (1909), pp 112-120

² *Principles*, p 517 note

³ His analytical technique being somewhat primitive, he considers only one factor for the sake of simplicity

⁴ Cf my *Economics of Imperfect Competition*, p 249

⁵ In my opinion, Mr Sraffa over-estimates Mr Hobson's insight on this point. See "Sulle relazioni fra costo e quantità prodotta," *Annali di Economia*, Vol II, no I (1925), p 312 note

⁶ Cf Edgeworth on Prof Seligman, *Papers*, Vol II, p 397

the point where four men are employed. The true maximum of average productivity lies somewhere between four and five men, and at the maximum marginal and average productivity are equal.

Thus Marshall and Mr. Hobson are each right in what they assert, and wrong in what they deny,¹ and if Mr. Hobson had been more subtle in his use of arithmetic, or Marshall less unable to suffer fools gladly, the whole controversy would have been cleared up on the spot.

Meanwhile, Wicksell had expanded Walras' account of the problem.² He adopts the view that there is no specific economic function for the employer as such, and deduces from this that the supply price of enterprise or normal level of profits must be zero, for if at any moment a positive profit were being earned by employers, it would soon be reduced to zero by the competition of new entrants eager to share this painless method of earning a livelihood.³ He proceeds to show, by a line of argument similar to that of Wicksteed, that when each employed factor is paid a rate of reward equal to its marginal product to the firm, profits can only be zero if constant physical returns prevail.⁴

He then argues that at a position of competitive equilibrium constant physical returns will prevail. Up to a certain output of the firm there will be increasing returns due to economies of large scale, but if increasing returns to the firm prevail, average cost per unit of output will be falling and competitive equilibrium will be impossible. Beyond a certain output rising average cost may occur. This also is incompatible with equilibrium, because if the output of a firm is so large that average costs are rising the firm must be earning a positive profit, consequently new firms will enter the industry, and the fall in price of the commodity will drive the old firms back to the output at which average cost is at a minimum.

¹ Marshall's example of the shepherds is not open to this objection if it is taken to apply to what I call the "quasi long period" (*Imperfect Competition*, p. 47). There is no tendency for normal profits to be established among his sheep farmers.

² *Vorlesungen über Nationalökonomie*, Vol. I, pp. 186-191.

³ *Ibid.*, p. 187.

⁴ Dr. W. L. Valk in criticising Wicksell's argument on this point shows that he fails to mention the difference between the marginal product of the 100th man when 100 men are employed with 100 units of land, and the marginal product when 100 men are employed with 101 units of land. Dr. Valk appears to argue that the fact that marginal productivity analysis requires us to conceive changes in the factors so small that this difference is negligible, is sufficient to render marginal productivity analysis completely valueless. *Principles of Wages*, p. 74. Cf. Edgeworth on Mr. J. A. Hobson, *Papers*, Vol. I, p. 19, note 3.

The upshot of all this appeared to be that, so long as conditions of perfect competition¹ are postulated, there is no difficulty about constant physical returns to the firm. But it is necessary to be clear as to what exactly we mean by a firm. The problem of providing a formal treatment of the factor "entrepreneurship," which is easy to handle analytically and at the same time is not too remote from actuality, has never been satisfactorily solved. Three possible methods may be considered, each more appropriate to some problems than to others, but none perfectly satisfactory for any.

First, we may postulate (following Wicksell) that there is no specific function of decision-taking for the entrepreneur to perform, and that the owners of one factor—for instance, capital—hire the services of the others. Capital, as well as the other factors, must be assumed to be employed up to the point at which its marginal productivity to an employing unit is equal to its cost to that unit—that is, to what it can earn as an employed factor.² Capital is thus upon exactly the same footing as the other factors. A profit or loss to the employer is then a difference between total receipts and total costs, including the cost of capital. Second, we may postulate that each firm consists of a single indivisible unit of entrepreneurship whose supply price is independent of the amount of output it controls. Or third, we may postulate that each entrepreneur is not a fixed unit, but performs more or less of his decision-taking function according to the reward which he can earn.

In the first two cases clearly there is no meaning to be attached to the notion of "marginal product of entrepreneurship to the firm." When either of these schemes of analysis is adopted, therefore, the employer must not be regarded as a specific factor of production from the point of view of the firm, and constant returns to the firm must be said to prevail when a given proportional increase of every factor except entrepreneurship would give the same proportional increase in output. In the third case the entrepreneur must be conceived to regulate the amount of effort he supplies to the firm by its marginal productivity to the firm, in just the same way as he regulates the amount of the factors he employs. The entrepreneur's effort is therefore upon exactly the same footing as an employed factor. Constant returns are then

¹ Throughout this essay I am using the phrase perfect competition to mean simply that the elasticities of demand and of supplies of factors for a single firm are infinite. This implies no reference to free entry into the trade or normal profits.

² The case of imperfectly elastic supply of factors to an employing unit is considered later—see below p. 411.

said to prevail when a given proportional increase of every factor, including the entrepreneur's effort, gives the same proportional increase in output, and profits are reckoned excluding the variable element in the reward of the entrepreneur

Each of these methods of depicting entrepreneurship is highly unrealistic, but they are adopted merely in order to display the workings of the marginal productivity principle in various types of case, and are not put forward as an attempt to solve the problem of a realistic treatment of entrepreneurship as a factor of production ¹

Whichever method is adopted, it is clear from Euler's theorem that in conditions where physical returns, in the relevant sense, are constant, profits in the relevant sense must be zero. For when competition is perfect the wage of each factor is equal to the value of its marginal physical product and there is no residue for the employer

It is now apparent that Wicksell's assumption of zero normal profits is an essential step in his argument. It is impossible to argue in general that because average cost to the firm is at a minimum in competitive equilibrium therefore constant physical returns to the firm prevail, for the cost which is at a minimum in competitive equilibrium is average cost including normal profits. If normal profits are positive the output at which average cost is a minimum is greater than the output at which net economies of large scale give way to net diseconomies, and constant physical returns do not prevail.

The history of the controversy up to this point is summarised in the Appendix to the *Theory of Wages* by Dr Hicks ². He shows, in effect, that even when Wicksteed had taken the drastic step of confining his argument to cases of perfect competition, he was not yet out of the wood, for he had postulated constant physical returns as a universal technical necessity. This postulate is shown by Pareto and by Walras to be inadmissible, but Wicksell contends that, for the output which will be produced in competitive equilibrium, constant physical returns to the firm do prevail whatever the technical conditions. Thus it appeared that Wick-

¹ A large part of the literature of the subject is devoted to debating the proper analytical treatment of entrepreneurship as a factor, see Edgeworth (*Papers*, Vol. I, "Theory of Distribution") and the authors cited by him. The question has recently been revived by Mr Kaldor "The Equilibrium of the Firm," *ECONOMIC JOURNAL*, March 1934.

² I should like to take this opportunity to make my acknowledgments to Dr Hicks for the helpful guide map which he provides to this else bewildering territory, and to Professor Robbins as the champion and editor of Wicksteed.

steed's assumption of perfect competition, required to get him out of a difficulty of which he was aware—diminishing returns in terms of value—incidentally saved him from a difficulty of which he was not aware—increasing returns in terms of physical product

Wicksteed's problem was that the marginal productivities of the factors, multiplied by the amounts of the factors, absorb the whole product without residue only in conditions of constant returns. Wicksell's argument shows that constant physical returns will prevail under perfect competition. Thus it appears that, so long as we admit Wicksell's postulate of zero normal profits, there is really no problem at all. On the contrary, the result is exactly what we should expect, for it is only if competition is perfect that the earnings of the factors are equal to the value of their marginal physical products, and only when profits are zero that the earnings of the factors absorb the whole product. After all this long debate we reach a self-evident conclusion.

Nevertheless it is impossible to be satisfied with a solution which applies only to the case of zero profits. The condition that the employed factors receive the value of their marginal physical product to the firm under perfect competition must be fulfilled even when profits are positive or negative.¹ But it is an illusion to suppose that this presents any difficulty, for if profits are not zero constant returns do not prevail. In the present context, increasing or diminishing returns must be said to prevail according as a given proportional increase in the amount of every factor would lead to a greater or smaller proportional increase in output. Now, the economist can prove that profits are negative or positive according as returns are increasing or diminishing for the individual firm. For, under perfect competition, marginal cost to the firm, for the output at which profits are a maximum, is equal to the price of the product. When a loss is being made by the employer, price is less than average cost. Therefore marginal cost is less than average cost. Therefore the average cost curve of output is falling, and physical returns are increasing. Conversely, when a profit is being made by the employer physical returns are diminishing. While the mathematician has only to set out the generalised form of Euler's theorem in order to show² that

$$P \leq a \frac{\partial P}{\partial a} + b \frac{\partial P}{\partial b} +$$

¹ Dr Hicks is content to confine himself to the case of zero profits since he holds that in conditions of equilibrium there is no function for the entrepreneur (*Theory of Wages*, p. 234). Beyond this point in our argument, therefore, Dr Hicks' guidance is less helpful.

Cf Wicksell, *loc cit*, p. 189, and Chapman, *loc cit*, p. 526 note.

according as

$$mP \gtrless + f(ma, mb, \quad)$$

If the normal level of profits is positive the number of firms will be so limited that diminishing physical returns to the firms prevail to just the extent which is compatible with the required profit. A positive profit of this level will fail to attract in new enterprise, and so fail to drive existing firms back towards the output at which constant physical returns prevail.

Thus it appears once more that there was really no problem, for it is obvious that the total product cannot be absorbed by the earnings of the employed factors when profits are positive, and we already knew that when profits are positive diminishing physical returns prevail.

But all this applies only to marginal productivity from the point of view of a firm under perfect competition. We have as yet thrown no light on the proposition, contested by Edgeworth, that the entrepreneur, as well as the employed factors, receives a reward equal to his marginal product. For the marginal product of the entrepreneur to the firm has no meaning. The question must therefore be whether the earnings of the entrepreneur are equal to the marginal productivity of entrepreneurship to the industry.¹ Our next task is to consider marginal productivity from the point of view of an industry, retaining the assumption of perfect competition.

From the point of view of an industry, enterprise must be treated on just the same footing as the other factors, for even if we take the view that there is no specific economic function of entrepreneurship, yet it remains true that the productivity of the other factors varies with the number of firms in which they are organised, and the difference which is made to their productivity by adding an entrepreneur is the marginal product of entrepreneurship.²

The proposition that, with constant physical returns to the industry, total output is equal to the sum of the amounts of the factors each multiplied by its marginal physical product to the industry, can be very simply proved by means of Euler's theorem.

¹ The relationship of productivity to the industry with productivity to society is not here discussed.

² Anyone who rejects altogether the notion of diseconomies of large scale to a firm is at liberty to say that the marginal productivity of entrepreneurship to an industry may be zero or negative, but never positive. The argument which follows is purely formal, and begs no questions about the nature of entrepreneurship as a factor.

But the economist can supply his own demonstration of it. The self-interest of the entrepreneurs will ensure that, under conditions of perfect competition, the value of the marginal physical product to the firm of each employed factor is equal to its wage. And under constant returns marginal physical product to the industry is equal to marginal physical product to the firm. It only remains to prove, therefore, that the reward of the entrepreneurs is equal to *their* marginal physical product to the industry. The marginal productivity to the industry of entrepreneurship is the difference which would be made to output if one entrepreneur were withdrawn.¹ That is, the output of one firm *minus* the output which the factors employed by that firm would produce if they were dispersed among the remaining firms. Thus, the value of the marginal physical product of entrepreneurship is the value of output of one firm *minus* the amounts of the employed factors each multiplied by the value of its marginal physical productivity. This is equal to the total receipts of the firm *minus* the total cost of the employed factors. And this is the reward of the entrepreneur.

It is to be observed that this proof contains no reference to normal profits. If we are considering Wickseil's case in which there is no supply price of entrepreneurship, so that the level of normal profits is zero, then in full equilibrium the entrepreneurs receive nothing, and their marginal productivity to the industry is zero. If the normal level of profits is positive, their marginal productivity in equilibrium is positive. If profits are more or less than normal, the marginal productivity of entrepreneurs to the industry is correspondingly high or low, owing to the temporary scarcity or superabundance of entrepreneurs which has caused profits to depart from the normal level.²

But what of economies of large-scale industry?³ When there are economies of large scale, the sum of the amounts of the factors each multiplied by its marginal physical product is greater than the total output. But this causes no difficulty, for the simple

¹ The number of firms in the industry being n , it is necessary to assume that n is so large that the difference between the marginal physical productivities of the constant amount of other factors when they are working with n entrepreneurs and when they are working with $n - 1$ may be neglected. Cf. above p. 404 $n = 4$.

² When the entrepreneur's earnings vary with the amount of effort which he supplies to his firm the unit of entrepreneurship from the point of view of the industry is best regarded as a single entrepreneur doing that amount of work whose marginal cost to him is equal to its marginal product to the firm.

³ It is here that we must finally dispense with the guidance of Dr. Hicks, for in this region his map contains nothing but a blank space marked *Terra Incognita*. *Loc. cit.*, p. 240.

reason that the rewards of the employed factors are not equal to their marginal physical products to the industry. The marginal product of a factor to the industry is greater than to the firm by the extent of the economies induced by a unit increase in the amount of the factor employed. And it is the marginal product to the firm which is equal to the wage of the factor. Similarly, the marginal productivity of an entrepreneur to the industry is greater than his earnings by the amount of economies which accrue to the other firms when an increment is added to output whose value is equal to the value of his marginal physical product to the industry.¹ Thus once more the economist finds himself in complete accord with Euler. If the factors *were* paid the value of their marginal products to the industry, total cost would be greater than total receipts when increasing returns to the industry prevail. But actually each factor is paid less, and the total product is exactly disposed of among them.

Conversely if there are diminishing returns to the industry, in the sense in which we have been using that term, that is, if there are real diseconomies of large-scale industry,² then the factors are paid more than their marginal product to the industry to a degree exactly corresponding to the extent of the diseconomies.³

All this while we have been dwelling in the world of perfect competition. It is time to return to Wicksteed's long-neglected difficulty, and consider the analysis of marginal productivity under imperfect competition. First consider the matter from the point

¹ This is upon the assumption that economies of large scale industry depend solely upon the output of the commodity and not on the proportions of the factors, so that the production function is homogeneous, though of a higher degree than unity. If the economies vary with the amounts of particular factors employed (the production function is not homogeneous) then only those factors which give rise to economies receive less than their marginal physical products to the industry. Cf Tarshis, *Review of Economic Studies*, February 1934, p. 145.

² We are here concerned with the "rare type" of diminishing returns (see *Imperfect Competition*, p. 348). The reader must guard against misleading associations with the "common type" of diminishing returns.

³ The above argument bears some resemblance to that of Sir Sydney Chapman in his article on the "Remuneration of Employers" (*Economic Journal*, December 1906). But his definition of "increasing and diminishing returns" is somewhat obscure, and matters are not much improved by Edgeworth's comments (*Papers*, Vol I, p. 99). Sir S. Chapman is quite correct in saying that the reward of the entrepreneur is less than the value of his marginal physical product to the industry when there are economies of large scale. What he evidently failed to realise was that his argument applies to the other factors just as much as to entrepreneurship (*loc cit*, p. 527 note). His argument was somewhat grudgingly received by Edgeworth (*Papers*, Vol II, pp. 331-339), who appears to have had a rooted objection to applying the marginal productivity analysis to the case of the entrepreneur.

of view of the individual firm, assuming that, while the market for the commodity is imperfect, the supplies of factors to the firm are perfectly elastic. Under imperfect competition, a firm which is earning zero profits must be producing at falling average cost.¹ Therefore conditions of increasing physical returns to the firm prevail. At a hasty glance it might appear that the provisions of Euler's theorem are therefore violated. But this is not the case. For the earnings of a factor are not equal to the value of its marginal physical product, but to the marginal product in value to the firm, and are thus less than the value of the marginal physical product in the ratio of marginal revenue to price.² To satisfy the conditions of Euler's theorem it is necessary to show, not that constant returns in terms of physical output prevail when profits are zero, but that constant returns in terms of value prevail. That is to say, a given proportional increase in every factor employed must give the same proportional increase in the total value of the product.

Wicksteed regarded constant physical returns as a universal condition, therefore, since the price of the commodity produced by the firm falls as its output increases, it was impossible for him to conceive of constant returns in value under imperfect competition. For him diminishing returns in value must always rule. But as soon as we introduce economies of large scale to the firm into the picture Wicksteed's difficulty disappears. Constant returns in value will prevail at the output at which technical economies due to an increase of output just offset the accompanying fall in selling price. And it will be proved in a moment that constant returns in value do prevail when the firm is earning zero profits. Once more the methods of economic analysis will be found to lead to the conclusions of Euler's theorem.³

Before turning to the general proof let us consider the case in which competition in hiring the factors is not perfect, so that the

¹ See *Imperfect Competition*, p. 97. In that passage I am including normal profit in cost, whereas in the present context cost is reckoned excluding profit.

² *Ibid.*, p. 237.

³ The complete harmony between them is well illustrated by the case in which a firm selling in an imperfect market happens to be producing under conditions of constant physical returns. This will occur when, by a fluke, the marginal revenue curve cuts the marginal cost curve at the output at which it in turn cuts the average cost curve. Constant physical returns prevail, but the factors are receiving less than their marginal physical product, consequently there is a positive profit. The factors receive their marginal product in value, but diminishing returns in value prevail, consequently there is a positive profit. By either line of reasoning the conditions of Euler's theorem are seen to be fulfilled.

supplies of factors to the firm are less than perfectly elastic. We know that in such a case the wage of a factor is less than its marginal product in value. For the marginal product must be equated to the marginal cost of the factor to the firm, and this *ex hypothesi* is greater than the wage.¹ Once more there appears at first sight to be a contradiction, but once more upon examination the difficulty disappears, for it is no longer appropriate to measure the factors in physical terms, they must be measured in terms of outlay.

The condition of constant returns may now be more generally defined. It obtains when a given proportional increase in the outlay upon every factor employed would lead to the same proportional increase in value of output. Hitherto we have considered cases in which the supplies of the factors to the firm are perfectly elastic, so that up to this point it has been indifferent whether the factors are measured in physical terms or in terms of outlay. But in the general case a given proportional increase in the outlay upon a factor gives a proportional increase in the amount of the factor which is less in the ratio of average to marginal cost of the factor to the firm.² Although the wage of a factor may be less than its marginal product in value per physical unit of the factor, it must be equal to the marginal product per unit of outlay. It follows at once from Euler's theorem that profits are zero, positive, or negative according as returns are constant, diminishing or increasing, measured in terms of value and of outlay.

The same proposition can be proved without resort to Euler's theorem. When profits are zero the average cost curve of the firm is tangential to the demand curve for its output.³ For the output at which the curves are tangential, profits are at a maximum of zero, any greater or smaller output would yield a loss. Therefore a curve relating value of output to average outlay per unit of value of output would be at a minimum at this point, and constant returns in terms of value and outlay prevail. If a positive profit is being made, the demand curve for the firm lies above its average cost curve. But for the most profitable output, marginal revenue and marginal cost are equal, therefore the demand curve, which is higher, must have a greater slope than the

¹ See *Imperfect Competition*, p. 293.

² The above argument applies to the case of an entrepreneur who supplies units of effort to his firm at rising cost (see above p. 405), a rising subjective cost of effort being reckoned in money terms. The entrepreneur will supply that amount of effort whose marginal cost to him is equal to its marginal product in value to the firm. Cf. Edgeworth on Mill (*Papers*, Vol. I, p. 17).

³ Cf. *Imperfect Competition*, p. 94.

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- A. AFTALION, Professor an der Universität Paris, *Die jüngste Geschichte des Wechselkurses in Frankreich und die psychologische Wechselkurstheorie* Vol I, p 266
- GUSTAF ÅKERMAN, Professor an der Handelshochschule Gothenburg, *Flecksarbeit* Vol V, p 97
- JOHAN ÅKERMAN, Dozent in Stockholm, *Dynamische Wertprobleme* Vol II, p 579
- ALFRED AMONN, Professor an der Universität Bern, *Zur gegenwertigen Krisenlage und inflationistischen Krisenbekämpfungspolitik* Vol V, p 1

- OSKAR ANDERSON, Professor an der Handelshochschule Varna, *Ist die Quantitätstheorie statistisch nachweisbar?* Vol II, p 523
- ALEXANDER BILIMOVIC, Professor an der Universität Laibach, *Irving Fishers statistische Methode für die Bemessung des Grenznutzens* Vol I, p 114
Versuch der Bemessung des Grenznutzens Vol IV, p 161
Kritische und positive Bemerkungen zur Geldwerttheorie Vol II p 353 695
- L. V. BIRCK, Professor an der Universität Kopenhagen, *Kalkulationen und Preisberechnungsmethoden* Vol I p 101
- KAREL ENČIČ, Professor an der Universität Brunn, *Zum Problem der teleologischen Theorie der Wirtschaft* Vol IV, p 220
- MARCO IANNO, Professor an der Universität Padua, *Irrtümer in der Zeit als Ursachen wirtschaftlicher Schwankungen* Vol IV, p 25
Die Elastizität der Nachfrage nach Ersatzgütern Vol I, p 51
- MAURO FASIANI, Professor an der Handelshochschule Triest, *Der gegenwärtige Stand der reinen Theorie der Finanzwissenschaft in Italien* Vol III, p 51 Vol IV p 79, p 357
- ERALDO FOSSATI, Professor an der Universität Padua, *Ricardo und die Entstehung des Bullion Report* Vol IV p 473 Vol V, p 42
- RAUNAK ERISCH, Professor in der Universität Oslo, *Einige Punkte einer Preistheorie mit Boden und Arbeit als Produktionsfaktoren* Vol III, p 62
- GOTTFRIED HABERLER, Privatdozent in der Universität Wien, *Wirtschaft als Leben* Vol I p 28
Transfer und Preisbewegung Vol II p 100
- FRIEDRICH A. HAYEK, Privatdozent an der Universität Wien, *Gibt es einen Widersinn des Sparens?* Vol I p 387
- J. R. HICKS, Dozent an der London School of Economics London, *Gleichgewicht und Konjunktur* Vol IV, p 441
- FELIX KAUFMANN, Privatdozent an der Universität Wien, *Soziale Kollektiva* Vol I, p 294
- H. FRANK KNIGHT, Professor an der Universität Chicago, *Statik und Dynamik Zur Frage der mechanischen Analogie in den Wirtschaftswissenschaften* Vol II, p 1
- OSKAR LANGE, Privatdozent an der Universität Krakau, *Die allgemeine Interdependenz der Wirtschaftsgrößen und die Isolierungsmethode* Vol IV p 52
- ALEXANDER MAHR, Privatdozent an der Universität Wien, *Abstinententheorie und Lehre von der Minderschätzung der Zukunftsgüter* Vol II p 27
- W. ARTHUR MARGET, Professor an der Universität Minnesota Minneapolis, *Zur Dogmengeschichte des Begriffes einer „Umlaufgeschwindigkeit der Güter“ und seines Verhältnisses zur Umlaufgeschwindigkeit des Geldes* Vol IV, p 188
- OSKAR MORGENSTERN, Privatdozent an der Universität Wien, *Offene Probleme der Kosten- und Ertragstheorie* Vol II, p 481
- GUNNAR MYRDAL, Professor an der Universität Stockholm, *Das Zweckmittel-Denken in der Nationalökonomie* Vol IV, p 305
- RAGNAR NURKSE, Wien, *Ursachen und Wirkungen der Kapitalbewegungen* Vol V, p 78
- GIUSEPPE UGO PAPI, Professor an der Universität Pavia, *Die grundlegende Ursache der wirtschaftlichen Schwankungen* Vol IV, p 330
- BERTIL OHLIN, Professor an der Universität Stockholm, *Die Beziehung zwischen internationalem Handel und internationalen Bewegungen von Kapital und Arbeit* Vol II, p 161

- RICHARD REISCH, Professor an der Universität Wien, *Das Kreditproblem in der Volkswirtschaft* Vol III p 1
Die „Deposit“-Legende in der Banktheorie Vol I p 489
- UMBERTO RICCI, Professor an der Universität Kairo, *Die Kurven des Geldnutzens und die Theorie des Sparens* Vol III, p 307
Die „synthetische Ökonomie“ von Henry Ludwell Moore Vol I, p 649
- M ROCHE-AGUSSOL, Professor an der Universität Montpellier, *Psychologische Ökonomie in Frankreich* Vol I, p 4, 570
- EWALD SCHAMS, Sektionsrat in Wien, *Die Anfänge lehrsgeschichtlicher Betrachtungsweise in der Nationalökonomie* Vol III, p 47
Komparative Statistik Vol II, p 27
- ERICH SCHNEIDER, Dozent an der Universität Bonn, *Kostentheoretisches zum Monopolproblem* Vol III, p 185
- HEINRICH VON STACKELBERG, Köln, *Grundlagen einer reinen Kosten-theorie* Vol III, p 333, 352
- RICHARD STRIGL, Professor an der Universität Wien, *Lohnfonds und Geldkapital* Vol V, p 18
- RUDOLF STUCKEN, Professor an der Universität Erlangen, *Keynes Vorschläge zur Wirtschaftsbelebung* Vol IV, p 646
- J TINBERGEN, Scheveningen, *Bestimmung und Bedeutung von Angebotskurven* Vol I p 669
- JAKOB VINER, Professor an der Universität Chicago, *Cost Curves and Supply Curves* Vol III p 23
- F ZEUTHEN, Professor an der Universität Kopenhagen *Das Prinzip der Knappheit technische Kombination und ökonomische Qualität* Vol IV, p 1

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The next number of the "Zeitschrift" which appears at the end of June will probably include the following articles

- Dr J TINBERGEN, Scheveningen *Einfluß von Kaufkraftregulierung auf den Konjunkturverlauf* Privatdozent Dr O MORGENSTERN, Wien *Zeit und Wertlehre* Dr G LOVASY, Wien *Schutzzölle bei unvollkommener Konkurrenz* Dr F WALTER, Wien *Kapital und Kapitalismus* O FREIHERR VON MERING, Berlin *Volkswirtschaftliche Produktivität und volkswirtschaftlicher Gesamtnutzen* Dr K H STEPHANS, Lubeck *Bemerkungen zum Wertaspekt der modernen Verteilungstheorie*

New Books

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Kapital und Produktion. Von Richard v Strigl, Professor an der Universität Wien X, 247 Seiten („Beiträge zur Konjunkturforschung“, Nr 7 Herausgegeben vom Österreichischen Institut für Konjunkturforschung) 1934 RM 7 80

Inhaltsübersicht Die Produktionsumwege — Die horizontale und vertikale Verbundenheit der Preise — Geld und Kapital — Anhang I Zum Problem der Konjunktur — Anhang II Ein Nachwort zum Kapitalbegriff

Gegenüber einer Auffassung, die zu sehr an einer starren Vorstellung von Kapital haftet, zeigt der Verfasser, daß das Kapital immer nur ein im Prozeß der Investierung und Wiederfreisetzung Bewegtes ist. Das gilt für Investitionen, die durch Bindung von freiem Kapital entstehen, nicht minder als für das Betriebskapital. Die Freisetzung, des einmal gebundenen freien Kapitals und seine neuerliche Investierung ermöglicht die Erhaltung des Kapitalbestandes der Wirtschaft. Das entscheidende Problem der Produktion ist die Regulierung ihres Aufbaus in der Weise, daß das Ausmaß der Investitionen sich einer fortlaufenden Versorgung mit freiem Kapital anpaßt. Es wird gezeigt, daß nur die Bildung eines der Versorgung mit realem Sparkapital entsprechenden Zinsfußes das Ausmaß der Investitionen in der Weise bestimmen kann, daß sie sich in den Rahmen der wirtschaftlichen Gegebenheiten einfügen. Störungen in der Bildung des Zinsfußes müssen ganz so wie alle Beeinflussungen des Wirtschaftsablaufes vom Geld aus dazu führen, daß auch eine Störung im Aufbau der Produktion eintritt. Die Besprechung des Konjunkturverlaufs gibt Anlaß zu einer Erörterung der möglichen Maßnahmen der Konjunkturpolitik. Besonders Gewicht wird in dem Buch auf eine Klärstellung des Verhältnisses zwischen Geld und Kapital gelegt, des weiteren auf die Behandlung der Ursachen übermäßiger Bindung des Kapitals in dauerhaften Anlagen.

Das Buch bietet vielfache Ansätze auf höchst aktuelle praktische Probleme und ist nicht nur für den theoretisch Interessierten, sondern auch für den, der sich mit Wirtschaftspolitik und Betriebsführung befaßt, von der allgrößten Bedeutung.

Die Grenzen der Wirtschaftspolitik. Von Oskar Morgenstern, Privatdozent an der Universität Wien, Leiter des Österreichischen Institutes für Konjunkturforschung VII, 136 Seiten („Beiträge zur Konjunkturforschung“, Nr 5 Herausgegeben vom Österreichischen Institut für Konjunkturforschung) 1934 RM 4 80

Inhaltsübersicht 1 Einleitung — 2 Das Anwendungsproblem — 3 Die starren Systeme der Wirtschaftspolitik — 4 Die Streuung der Wirkungen der Wirtschaftspolitik — 5 Die gegenseitigen Abhängigkeiten der wirtschaftspolitischen Maßnahmen — 6 Die durch Macht gesetzten Grenzen — 7 Immanente Schwierigkeiten der Wirtschaftspolitik — 8 Die Besonderheiten der Konjunkturpolitik — 9 Die Gefahren der Nationalökonomie — 10 Schluß: Staat und Wirtschaftspolitik — Anhang

Die vorliegende Schrift behandelt in ausführlicher Weise die Frage, inwieweit die Nationalökonomie für die Wirtschaftspolitik in Betracht kommt, d. h. sie befaßt sich mit dem sog. Anwendungsproblem. Es wird gegenüber allen jenen, die der Nationalökonomie die Eigenschaft einer Erfahrungswissenschaft absprechen wollen und sie gleichzeitig mit irgendwelchen Systemen der Wirtschaftspolitik wie dem Liberalismus oder Sozialismus identifizieren möchten, ein klarer Trennungsstrich gezogen. In großen Zusammenhängen werden ferner, die zahlreichen Schwierigkeiten aufgezeigt, die sich einer rationalen Wirtschaftspolitik in den Weg stellen. Ferner werden die Fragen der Widerspruchsfreiheit der wirtschaftspolitischen Maßnahmen, die Beziehungen von Macht und ökonomischem Gesetz usw. besprochen. Da es aber in der Wirtschaftspolitik für die Nationalökonomie keinen wie immer gearteten Ersatz gibt, muß namentlich der „Vulgarökonomie“ der gefährlichsten Pseudowissenschaft der Gegenwart rücksichtsloser Kampf angekündigt werden. Dadurch wurde die wissenschaftliche Periode der Wirtschaftspolitik eingeleitet, deren hauptsächlichste Merkmale oben falls gekennzeichnet werden.

Führer durch die Krisenpolitik. Von Fritz Machlup, Wien XV, 232 Seiten („Beiträge zur Konjunkturforschung“, Nr 6 Herausgegeben vom Österreichischen Institut für Konjunkturforschung) 1934 RM 7 80

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Die Theorie der Marktformen mit unvollständiger Konkurrenz, die mit Cournot ansetzte und seit Edgeworth in steigendem Maße Gegenstand der wissenschaftlichen Diskussion geworden ist, hat in dem vorliegenden Werk eine zusammenfassende und abschließende Behandlung gefunden. Die zentrale Bedeutung, welche das hier untersuchte Problem im Gefolge der zunehmenden Konzentration in der Wirtschaft gewinnen mußte, macht das vorliegende Werk zu einer höchst aktuellen Publikation. Die grundlegenden neuen Gesichtspunkte, unter denen das Problem angepackt und gelöst wird, bringen eine Erklärung für das Versagen der autonomen Wirtschaft im Zeitalter der industriellen Zusammenschlüsse. Sie führen zu einem Ansatzpunkt für die theoretische Begründung der integralen Marktregulierungspolitik des autoritären Staates. Ein mathematischer Anhang bringt die exakte Begründung für die im Text vorgetragenen Erkenntnisse.

Fruher erschien

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cost curve ¹ Therefore receipts per physical unit of output fall off faster than outlay as output increases, and conditions of diminishing returns in terms of value and outlay prevail Conversely, when a loss is being made, increasing returns in terms of value and outlay prevail The harmony between the economist and the mathematician is complete

It only remains to consider the case of an industry with imperfect competition between the firms composing it To isolate the effect of imperfect competition, assume constant physical returns to the industry ² Then the employed factors receive less than the value of their marginal physical products to the industry, these being equal to their marginal physical products to the firm Thus it can be shown directly by appealing to Euler's theorem, that the entrepreneurs receive more than the value of their marginal physical product to the industry Alternatively, adapting the argument developed above for the case of perfect competition, we may say the marginal physical product of an entrepreneur is equal to the output of a firm *minus* the amounts of the factors employed by a firm each multiplied by its marginal physical product But the factors are paid less than the value of their marginal physical products, therefore the earnings of the entrepreneurs are greater than the value of the marginal physical product of entrepreneurship This is a symptom of the fact that under imperfect competition the ratio of entrepreneurs to other factors is higher than that which would give minimum cost,³ or, in other words, that the size of the firm is uneconomically small ⁴

¹ Let x be output, y price, and z average cost

Then $y + x \frac{dy}{dx} = z + x \frac{dz}{dx}$ (marginal revenue = marginal cost)

$$\text{if } y > z, \frac{dy}{dx} < \frac{dz}{dx}$$

the negative slope of the demand curve is greater than that of the cost curve (In perfect competition—see p 407 above—we have the special case in which $\frac{dy}{dx} = 0$ when $y > z$, $\frac{dz}{dx}$ must be positive Since the prices of the factors are constant, this entails diminishing physical returns)

² It is to be observed that the kind of falling supply price for an industry that occurs because competition becomes more perfect as the industry expands (*Imperfect Competition*, p 101) is not due to increasing returns in the sense here relevant but arises from the fact that the proportion of entrepreneurship to other factors becomes more favourable (that is, less) as the industry expands and the firms grow in size

³ This is true even if the reward of the entrepreneur is zero, for in that case his marginal physical product to the industry must be negative

⁴ The analysis of the effects of increasing or diminishing physical returns to the industry can be superimposed on the analysis of imperfect competition

The fact that under imperfect competition the entrepreneurs receive more than their marginal physical productivity to the industry was perceived by Wicksteed, but, shaken by Pareto's criticisms, he had not sufficient confidence to state it as a definite proposition. In 1905 he wrote that the "general result of investigation so far as it has yet been carried is to make it seem probable that in proportion as we approximate to the state of things usually assumed in the Theory of Political Economy (*i.e.* free competition, in which each individual competitor does only a small fraction of the total business of his market) we approximate to the result indicated [total product equal to the sum of the factors each multiplied by its marginal product]. So far as we recede from these conditions (for instance, in a great monopoly or trust) we recede from this result, and give the persons who control the concern something more than their distributive share in the product as measured by their marginal industrial efficiency" ¹

And already in 1894 he had caught a glimpse of it "The failure fully to confirm and generalise a property in the productive functions which would yield an admirably compact and complete co-ordination of the laws of distribution need not discourage us. Its suggestions as to the line of attack we must follow in dealing with monopolies, and with the true socialising of production, are so magnificent in their promise that we are more than consoled for the want of completeness in our immediate results" ² But, after forty years, economists are still debating the adding-up problem and neglecting to fulfil that magnificent promise

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For instance, it can be seen that if increasing returns prevail, the employed factors will receive less than the value of their marginal products for two reasons, while the entrepreneurs will receive a reward which may be less or more than the value of their marginal product, according as the effect of increasing returns outweighs or is outweighed by the effect of imperfect competition.

¹ *Common Sense*, Vol II, p. 862

² *Co-ordination*, p. 38

THE PROFITS OF PROFESSIONAL SPECULATORS ¹

I

SOME years ago the problem of the source of the profits of professional speculators on organised produce markets was discussed by R A Lehfelddt ² and J G Smith ³ in the pages of the *ECONOMIC JOURNAL*. This discussion, though brilliant and provocative, was inconclusive, and a reconsideration of the subject on the basis of subsequent governmental investigations in the United States may not be out of order.

A solution of the problem of the source of profits on a speculative market is desirable, not only as an aid to the understanding of the operations of such markets, but as a guide to public policy with reference to exchanges. If there is a body of expert, professional speculators who, in the main, make a profit out of their speculative activity, are their profits balanced by the losses of the inexpert speculators, or do they come from other sources? The answer has a direct bearing on the desirability of attempting to exclude amateur speculators from the market ⁴. If their losses provide the profits of the more expert traders, an attempt to exclude them from the market might lead to the retirement of the professional speculators as well, and thus destroy the market. Professor Smith holds that the presence of the inexpert trader is necessary to the existence of the exchange. In his book, *Organised Produce Markets*, he says, "Yet it is difficult to see how the speculative market can be maintained for the legitimate traders without the admission of the foolish outsider also, in quite considerable numbers" ⁵.

Professor Lehfelddt contended that the amateur is not essential to the maintenance of the market, but that the profits of the

¹ This paper was made possible by the grant of a Fellowship by the Social Science Research Council, and by an appointment to the position of Collaborator in the Grain Futures Administration of the United States Department of Agriculture.

² "The Maintenance of Organised Markets," *ECONOMIC JOURNAL*, XXXIII, 428-430 (September 1923).

³ "The Profits of Speculators," *ECONOMIC JOURNAL*, XXXIII, 579-581 (December 1923).

⁴ Such an action, for example, was recommended in the *Report of the Royal Grain Inquiry Commission* (of Canada), 1925, p. 139.

⁵ P. 121.

more expert traders come from another source His argument is described in a later part of this paper

In the decade which has elapsed since this discussion the operations of organised markets have been subjected to careful investigation in the United States, and much information has been collected which has a bearing on this as well as other aspects of the operation of these markets *The Report of the Federal Trade Commission on the Grain Trade* (in seven volumes) was the result of an exhaustive investigation of all phases of the grain trade, and is based upon the collection and analysis of information much of which had never before been collected The Grain Futures Administration, a bureau of the United States Department of Agriculture, under the authority of the Grain Futures Act of 1922, has wide supervisory powers over grain exchanges in the United States This bureau has made investigations of the operation of organised grain markets in the United States, and has published data secured from reports made to the Administration by the members of these markets¹ The material and studies thus provided form the basis for much more accurate generalisations on the subject of organised produce exchanges than have been possible in the past This is particularly true of the problem of speculators' profits

Most discussions of organised markets assume that there is a class of professional expert traders, who have considerable ability to forecast the direction of price movements, and who, in general, profit from their operations in the market Their skill is frequently contrasted with the ineptness of the amateur, "lamb," "punter," or "foolish outsider," who knows nothing about the grain market and merely gambles on the course of prices

The operations of the expert trader, it is claimed, stabilise prices by discounting future developments in the supply and demand for the commodity, and by preventing unexpected occurrences from driving prices out of line with the general situation The question of the effect of speculation on prices has been the subject of considerable controversy, but the general opinion of economists has been that speculation stabilises prices—and that this effect is due to the skill of the professional speculator It is therefore interesting to note that the Federal Trade Commission comes to the conclusion that, "Under existing con-

¹ The principal publications of the Grain Futures Administration are listed in the bibliography of *Future Trading upon Organised Commodity Markets in the United States*, by G. Wright Hoffman

ditions of speculation in grain futures no such stabilising influence has been found " ¹

The problem is far too complex to be considered here, but the conclusion of the Federal Trade Commission raises the question whether the failure of future trading to stabilise prices would be evidence that there is no group of speculators profiting consistently from their operations in the market. There are, however, other possibilities. The inexpert speculators may trade in such volume as to overbalance the activities of the more skilful, or the operations of the professional speculator may, at least occasionally, tend to accentuate swings in prices and not to reduce them. As a result of extensive studies of the operations of professional speculators the Grain Futures Administration has come to the conclusion that, "Professional speculators may be divided roughly into two groups. (1) Those who trade on the basis of rational appraisement of present and prospective conditions affecting supply and demand, without at the same time trading in a manner or with aids designed to augment or artificially hasten the market results expected. These have been considered as belonging to the constructive group. (2) Those who trade largely on the basis of mob psychology and faith in their ability through heavy trading to bring about temporary market conditions of which they may take advantage to make profits. Their operations and presence in the market are distinctly destructive " ²

Even the "constructive" group of professional speculators may trade in such a manner as to unsettle prices. If, because of sudden developments or demoralisation of the market, their position long or short becomes untenable, their hasty liquidation or covering may accentuate the fluctuations of prices ³. Under these circumstances the failure of speculative trading to stabilise prices would be no proof that the professional speculators do not profit, on the whole, from their activity.

The problem of the extent and sources of the profits of professional speculators on produce exchanges is clearly a problem of importance if the economic position of these markets is to be rightly understood, and if an intelligent public policy with reference to speculative markets is to be adopted. In this paper some estimates will be made of the amount of profits realised by various classes of speculators on the Chicago Board of Trade,

¹ *Report*, Vol. VII, "Effects of Future Trading," p. xxiii.

² *Fluctuations in Wheat Futures*, Senate Document No. 135, 69th Congress, 1st Session, p. 5.

³ *Ibid.*, p. 5.

and the question of the source of the profits of professional speculators will then be considered

II

Data in the files of the Grain Futures Administration make possible an estimate of the profits of various classes of traders in the wheat and maize September 1927 futures on the Chicago Board of Trade. These estimates represent a very small sample, and cannot be supposed to give an indication of the usual situation with regard to profits and losses. They represent, nevertheless, a sample from actual experience.

In response to a resolution of the United States Senate, the Grain Futures Administration made a special study of the operations of various classes of traders for the period January 3 to October 13, 1927.¹ The Grain Futures Administration secured from each of the clearing members of the Chicago Board of Trade every account which had shown an open interest in any future of as much as 200,000 bushels, or purchases or sales amounting to as much as 200,000 bushels in a single day during the period covered. When the accounts of the same trader with two or more clearing members had been combined it was found that there were 393 traders in wheat futures whose accounts were sufficiently large to be included in the list. For these 393 traders the accounts supplied the purchases and sales, and net positions for each day in the period. These traders were classified by the Grain Futures Administration as follows:²

Class B, hedgers—This includes traders who buy and sell futures to offset other sales or purchases of cash grain or grain products. Elevator operators, exporters, and manufacturers come within this class.

Class C, scalpers or pit traders—This class is made up of traders who buy and sell during the trading session, often in large quantities, but who are practically always "even" at the close of the session.

Class D, speculators—Includes the traders who buy or sell on relatively large scale in the hope of profiting through price changes occurring over a period of more than a day.

Class E, spreaders—This class is composed principally of those who specialise in trading between futures, between

¹ *Reports by Members of Grain Futures Exchanges* (in two parts), Senate Documents No. 264, 70th Congress, 2nd Session, and No. 123, 71st Congress, 2nd Session. For a statement of the conditions which led to this study see below, pp. 426, 427.

² *Ibid.*, p. 12.

grains, or between markets. Their hope of profit arises out of the change in price relationship between futures, grains or markets. A spreader, for example, may be long the September future and short the December future to a corresponding amount in the same or in different markets, hoping to profit by a change in the price spreads between them.

By subtracting the total trading and open commitments of these four classes from the total trading and open commitments data for all traders it was possible to secure total figures for the trading of the smaller traders. This class, designated Class F, included hedgers, scalpers, and spreaders, but the majority were said to be speculators scattered throughout the United States.

These classifications are admittedly rough. Each of the four classes of larger traders includes individuals who did some trading of the type indicated by the other classifications. In all such cases the traders were classified according to the type of trading which predominated in their activity. The grouping is not exactly suited to the purposes of an investigation of the profits of professional speculators. There may be some amateur speculators among the large traders in Class D, and there are certainly professional speculators included in Class F. It is probable, however, that use of size of operations as a criterion by which to distinguish the professional from the amateur does not lead to gross errors.

By taking the net change in open commitments for each class for each day in the period covered, and by multiplying it by a price for that day, an estimate may be made of the profitability of the operations of the class as a whole. Such a computation takes no account of scalping, or in-and-out trading during the day. While such trading is an important element in the market, it may be distinguished from speculative trading, which is concerned with the course of prices over a period of days or weeks. The profits or losses so calculated do not include commissions, or other expenses incurred in trading.

An estimate was made of the profits and losses in the September wheat future of 1927, and the results are shown in the tables below (Tables I, II and III). Each daily change in net position was multiplied by the high and by the low price for the day, and by the mean of the high and low prices for the day. By alternately assuming that all transactions for a given day were made at one of these prices, estimates of the net cost and net returns for the transactions of each class could be secured. The differ-

ence between these two values gave the net profit or loss for the class under the conditions assumed

The results of these computations are summarised in Table I. For each assumed price quotation the profits and losses of the longs and shorts balance, and the profits and losses of the various classes of traders balance. This is an essential characteristic of the market. It would be equally true if the actual price at which each transaction takes place were used in the computation, instead of a single price for all transactions on the same day. This is explained in greater detail below.

TABLE I

Estimates of Profits and Losses of Various Classes of Traders in the September 1927 Wheat Future, at Different Price Quotations
(In thousand dollars)

Class	Daily price quotation used								
	High			Low			Mean		
	Long	Short	Net	Long	Short	Net	Long	Short	Net
Hedgers	- 64	314	250	- 71	209	138	- 67	261	194
Scalpers	6	8	14	33	8	41	20	8	28
Large Specu- lators	- 545	53	- 492	- 298	55	- 243	- 422	54	- 368
Spreaders	- 3	- 67	- 70	1	- 24	- 23	- 1	- 45	- 46
Small traders	236	62	298	22	65	87	129	63	192
Total	- 370	370	0	- 313	313	0	- 341	341	0

Losses are indicated by the negative sign

This type of calculation gives an appearance of greater accuracy than the figures justify. It is possible, however, to present results which rather over-emphasise the inaccuracy of the estimation. If we assume that a given class makes its net purchases at the low prices of the days when the class in general is buying, and its net sales at the high prices of the days when sales predominate, we may compute an absolute upper limit to the profits which may accrue to the class. If, on the other hand, the computation is made on the assumptions that the class made its net purchases at the highs, and its net sales at the lows, we secure the most unfavourable result which could possibly accompany the operations of the class. These limits are shown in Table II. The mid-point between the limits is identical with the value which resulted from assuming the trades for each day to be made at the mean of the high and low values for the day.

TABLE II

*Limits within which Profits and Losses on the 1927 September
Wheat Future must have Fallen.*

(In thousand dollars)

Class	Favourable limit	Unfavourable limit	Mean
<i>Hedgers</i>			
Long	— 43	— 92	— 67
Short	947	— 424	261
<i>Scalpers</i>			
Long	79	— 39	20
Short	96	— 80	8
<i>Large Speculators</i>			
Long	734	— 1,577	— 422
Short	100	8	54
<i>Spreaders</i>			
Long	39	— 41	— 1
Short	186	— 277	— 45
<i>Small Traders</i>			
Long	1,060	— 802	129
Short	160	— 33	63

Losses are indicated by the negative sign

The limits shown could not possibly be reached by any class. The volume of trading at the high and at the low each day is a very small proportion of the total volume. That any class of traders could conduct all their transactions at these extremes is quite impossible. That any class should consistently trade at prices much more favourable than the mean is highly improbable. The mean may be considered as the most likely representation of the situation, although the possibility of considerable error should not be overlooked.

It is clear from Tables I and II that the large speculators did not display unusual prescience in their trading in the September 1927 wheat future. As a group they probably lost in the neighbourhood of \$350,000. The small traders, on the other hand, probably made a total profit of the order of \$200,000. The scalpers, who are also professional speculators, seem to have made a small profit on their speculative (non-scalping) activity. Trading in September wheat represents only one side of the transaction for the hedger or the spreader, and the indication that hedgers profited and spreaders lost in September wheat is no evidence as to the outcome of their trading operations as a whole.

In the computation of profits and losses for the 1927 September wheat future the only basis upon which the large speculators could have made a better showing than that indicated by the

mean is on the assumption that they were more fortunate in selecting the favourable price within the day than in forecasting the direction of day-to-day changes. It is clear that they were not accurate in their predictions of the course of the 1927 September wheat future.

While the smaller traders were more successful than the large speculators in forecasting price changes, this does not mean that they made a net profit out of their speculative activity. The above computations do not take commissions or taxes into account, nor do they include in-and-out trading, that is trades which are closed on the same day they are opened. An accurate estimate of the deductions necessary to secure net profits is not possible, as the commissions are not the same for non-members as for members of the Board of Trade, and there is no way of discovering how much of the trading of a given class was done by members, and how much by non-members. It is also impossible to segregate the commissions on in-and-out trading from the commissions on longer term speculation. It may be of interest to note, however, that the class of small traders purchased and sold 949 million bushels in the September 1927 wheat future. At the non-member rate they would have paid commissions of somewhat less than \$1,400,000 on this volume of trading. As the most favourable limit for the profits of this class of traders was \$1,200,000, it is very doubtful if they benefited financially from their speculation.

It is possible to make estimates of the profits and losses of the heaviest individual speculators in the September 1927 wheat future. For the period January 3 to October 31, 1927, the Grain Futures Administration has compiled the trading by days and by futures for each trader who at any time during the period had an open interest of at least 2 million bushels in a single future. There were seven of these speculators, but only six of them traded in the September 1927 wheat future. The outcome of their trading activity is shown in Table III. These computations, of course, disregard commissions, taxes and other expenses of trading. On this basis, Trader No. 2 certainly made a profit, Trader No. 3, almost certainly a loss, while the results for Traders 4 and 5 are in doubt. Trader No. 6 probably made a profit, and there can be no doubt that Trader No. 7 sustained a very heavy loss. This loss was probably in the neighbourhood of \$600,000.

Trader No. 7 was by far the heaviest trader in the September 1927 wheat future, and his forecast of the course of prices was

TABLE III

Profits and Losses of Individual Large Traders in the September 1927 Wheat Future

(In thousand dollars)

Trader	Fav ourable limit	Unfav ourable limit	Mean
No 2			
Short	49	20	34
No 3			
Long	— 6	— 30	— 18
Short	7	— 8	— 1
No 4			
Long	23	— 20	2
No 5			
Long	3	— 2	1
Short	2	— *	1
No 6			
Long	— 13	— 54	— 33
Short	210	— 79	65
No 7			
Long	— 320	— 878	— 599

* Less than \$500 *Losses are indicated by a negative sign*

quite erroneous. He was heavily long while wheat prices were declining and continued to decline. At one time he was long more than 8,400,000 bushels in September wheat. When he finally decided that he was on the wrong side of the market he sold 8,500,000 bushels in the September and December futures.

TABLE IV

Profits and Losses of Various Classes of Traders in the September 1927 Maize Future

(In thousand dollars)

Class	Fav ourable limit	Unfav ourable limit	Mean
<i>Hedgers</i>			
Long	10	— 11	— 1
Short	— 282	— 1,897	— 1,089
<i>Scalpers</i>			
Long	15	— 11	2
Short	31	— 64	— 17
<i>Large Speculators</i>			
Long	3,185	301	1,743
Short	15	— 13	1
<i>Spreaders</i>			
Long	15	— 24	— 5
Short	57	— 220	— 81
<i>Small Traders</i>			
Long	29	— 34	— 2
Short	454	— 1,556	— 551

Losses are indicated by a negative sign

in a single day. It is hardly surprising that on this day the price of the September future declined more than on any other day during the life of the future. This is an instance in which the trading of a professional speculator tended to increase rather than decrease fluctuation.

The study of profits and losses in the September 1927 maize future yielded results which are in striking contrast to those obtained for wheat. These results are summarised for the different classes of traders in Table IV. The large speculators as a group profited by an amount in the neighbourhood of \$1,700,000. All other classes of traders lost on their September maize future transactions, the hedgers approximately a million dollars, and

TABLE V

Profits and Losses of Individual Large Traders in the September 1927 Maize Future

(In thousand dollars)

Trader	Favourable limit	Unfavourable limit	Mean
No 1			
Long	285	-283	1
Short	79	2	40
No 4			
Long	117	33	90
Short	48	20	34
No 6			
Long	7	-15	-4
Short	-17	-152	-85
No 7			
Long	626	163	395
Short	41	-12	15
No 8			
Long	219	112	166
No 9			
Long	157	-41	58
Short	48	-244	-98
No 10			
Long	49	-78	-14
No 11			
Long	124	-101	11
Short	-*	-1	-*
No 12			
Long	383	258	320
No 13			
Long	-46	-169	-107
Short	1	-12	6
No 14			
Long	237	115	176
Short	-3	-5	-4
No 15			
Long	44	0	22
No 16			
Long	111	-12	50
Short	-1	-5	-3

* Less than \$500

the small traders about one-half of that amount, while the losses of spreaders and scalpers were relatively unimportant. These results are in much closer conformity with the usual conception of the success of professional speculators than those secured from a study of dealings in the wheat future.

The profits and losses of the largest individual traders in the September 1927 maize future are shown in Table V. Seven of the thirteen largest traders profited from their dealings in this future, two lost, and the success of four traders, Numbers 1, 9, 10 and 11, is in doubt.

The computations of profits and losses in the September 1927 wheat and maize futures are too small a sample to be considered representative of the results of speculative trading in general. Even if the sample were representative, the results would be inconclusive, since the large traders were successful in the maize future and unsuccessful in the wheat future.

It is the opinion of the writer that the ability of professional speculators to forecast the course of prices is generally overestimated. If professional traders, as a group, profit from their activity it seems likely that such profit is the result of forecasting price changes for a period no longer than a few hours, and not, as is generally assumed, for periods of several days, or even weeks. Mr. H. S. Irwin, of the United States Grain Futures Administration, has discovered that large speculators carry less than one-half of their trades overnight. That is, to use a long transaction as an illustration, a bushel is bought and then sold the same day for every bushel which is sold on a day other than that on which it was bought. In the case of short sales, the original sale is covered by a compensating purchase on the same day more frequently than the trade is allowed to remain overnight. This statement applies, not to scalpers, who are expected to confine themselves largely to in-and-out trading, but to the group of traders who were defined as speculators, which included all large traders not distinguished as hedgers, scalpers or spreaders.

The preponderance of in-and-out trading by large traders indicates either that they are primarily interested in price fluctuations within the day—are large-scale scalpers—or that much of their trading is done with the purpose of influencing the market.

The fact that large speculators are frequently in error in their forecasts of the course of prices, and the discovery that trading by large speculators has a much greater influence on prices than the same volume of trading by other classes of traders, have led

to the conclusion by the Grain Futures Administration that a limit should be imposed upon the volume of trading which may be done by an individual in a single day¹. A limit to the total open interest an individual trader may hold has recently been imposed under the Agricultural Adjustment Administration. The trend in American practice at the present time is in the direction of greater restrictions on the activities of large speculators, while little attention is being paid to the amateurs.

A most interesting requirement of the Grain Futures Administration is the provision that each individual must report his trades and open commitments to the Administration when his net position is more than a certain amount. This amount varies with the size of the market. For the Chicago Board of Trade it is 500,000 bushels. Regarding this requirement, Professor Smith

“There is an impression in America that the increasing suppression of the outside ‘punter’ and the necessity of reporting to the Government all transactions in wheat in Chicago of 500,000 bushels or over are tending to lower the price obtained by the producer for his crop. There are, of course, other and more fundamental reasons for the comparatively low prices of agricultural products throughout the world, but it is certainly the case that the new regulations in America have prevented some large dealers from giving their powerful support to the wheat market.”²

It is difficult to say what Professor Smith had in mind when he referred to “the increasing suppression of the outside ‘punter’” in the United States. None of the legislation regulating the grain trade in the United States has had this purpose or effect. His contention that the reporting requirements “have prevented some large dealers from giving their powerful support to the wheat market” is open to two questions. (1) Is it true that large traders, because of these regulations, have refrained from trading, or have reduced their activity? (2) If these large traders were in the market, would they “support” it?

Largely because of criticisms similar to that of Professor

¹ In the *Report of the Chief of the Grain Futures Administration* for 1930 the following statement is made —“Of the amendments to the Grain Futures Act deemed desirable perhaps the most salutary, in the opinion of the Administration, would be the imposition of a rational limitation upon the volume of daily purchases or sales and the total futures holdings permitted a trader for speculative purposes.”

² *ECONOMIC JOURNAL*, XXXIII, p. 581

Smith the regulations calling for reports on the trading of individual dealers were suspended by the Secretary of Agriculture in February 1927. Prices of wheat futures declined through March and April of that year, rose sharply early in May, and declined in the latter part of May and through June and July. After a short recovery in August, prices fell rapidly until the middle of September. After a month of fairly stable prices, the decline was resumed in October. The suspended regulations were restored on November 1, 1927, when the price of wheat futures was about 9 cents lower than at the time of suspension.

The Senate in February 1928 directed the Secretary of Agriculture to make an investigation of the effects of the suspension of the reporting requirements. The Grain Futures Administration therefore made a careful study of the trading of various classes of traders on the important grain exchanges of the United States from January 1 to October 31, 1927. The data gathered in the course of this investigation made possible the profit and loss calculations the results of which were given above. The evidence secured showed that the suspension of the reporting requirements did not increase the total volume of trading, bring in additional large speculators, or increase the trading by the large speculators already in the market. While some of the large traders were long during the period when the regulations were suspended, others were short, and the short commitments of the group as a whole were greater than the long commitments on a majority of the days for which the regulations were suspended.¹ While it may seem surprising that the removal of the reporting requirements did not stimulate trading by those individuals who would otherwise have been obliged to report, the failure of the group to "support" the market was to be expected. An individual trader buys or sells on the basis of his best judgment as to whether prices are going up or down, and his activity will "support" the market only when he thinks prices are going up. When his judgment is wrong his powerful support may be undesirable, as was strikingly shown by the experience of the largest speculator in the 1927 wheat future.

III

It may be that professional speculators, as a group, profit from trading on organized produce exchanges. If this is the

¹ The results of this investigation are published in Senate Document No. 264, 70th Congress, 2nd Session, and Senate Document No. 123, 71st Congress, 2nd Session.

case it is at least possible that these profits come very largely from trading on very short-time fluctuations in prices. On the other hand, it is possible that professional speculators in general do not profit from speculative trading, especially when trades are held open for considerable periods of time. That individual traders have made spectacular profits, not to mention the equally spectacular losses, cannot be denied. The very fact that large gains are possible, however, may attract men and capital to a business in which there is no net gain. It is quite conceivable that professional commodity speculation has the characteristics which Veblen attributed to gold mining when he said "The total cost of producing the supply of gold habitually exceeds the total value of the product by several hundred per cent" ¹

Professors Lehfeldt and Smith assumed that there was a net gain for professional traders on organised produce exchanges, and addressed themselves to the problem of answering the question, "From what source are these profits derived?"

Lehfeldt answered the question in the following way — Changes in prices affect the transfer of wealth in the community. If the price of a particular commodity is high, and its demand inelastic, a larger share of the total social wealth goes to the producers of that commodity. If the price is low a larger share goes to the consumer. "When a deficient crop is ripening, an exchange dealer, with his superior sources of information, and knowledge of the market, will associate himself with the producers, in the sense that, by buying futures he becomes responsible for a part of the enterprise of growing the crop. When an abundant harvest is just coming into sight, an astute dealer starts bearing the market, that is by selling futures, he takes a share in the utilisation of the unusually abundant and cheap material which will shortly be forthcoming." He concluded that, "if the amateur speculator disappeared altogether, produce exchanges would still earn the income necessary for their maintenance" ²

Professor Smith agrees with Lehfeldt in part. He says, "There always has, I think, been fairly general agreement that considerable profits accrue to the experts from these sources under the conditions assumed. Professor Lehfeldt's reasoning ought to convince those who have any doubts remaining on this point" ³. He maintains, however, that this source of profit is sufficient for the expert speculator only when the fluctuations

¹ *Absentee Ownership*, p. 174

² *Loc cit*, p. 430

³ *Loc cit*, p. 579

in price are considerable. He contends that, "when markets are free from abnormal disturbances the amateur speculator is useful and his existence essential for the continued prosperity of the expert. There is adequate evidence from a long series of Government inquiries in both Canada and the United States to establish the fact that the bulling and bearing of experts during crop years of normal yield are not harassing or costly to producers or consumers, but are undertaken mainly with the object of enticing outside 'punters' to speculate and thus provide the profits that are not forthcoming in adequate supply from other sources at such times" ¹

The profits of expert speculators in abnormal times, according to Professor Smith, also come from the losses of less skilful professional speculators, who fail in relatively large numbers at such times.

It may be recalled that in the calculation of profits and losses on the September 1927 future, the profits exactly equalled the losses. Does this prove that the profits of each class of traders are balanced by losses by other classes? The solution of the problem is not difficult when the mechanism of future trading is clearly understood. Strictly speaking, the speculator who "buys" long or "sells" short on a produce exchange is not buying or selling anything. He is entering into a contract to buy or sell a specified quantity of the commodity in question during a given period in the future, the quality of the commodity to be transferred to fall within certain limits. In February 1931, for example, buyers and sellers of the September wheat future on the Chicago Board of Trade were entering into contracts to buy and sell the specified quantities of wheat in September 1931. These contracts would be fulfilled by the delivery of wheat of the following grades: No 1 Hard Winter, No 2 Hard Winter, No 1 Red Winter, No 2 Red Winter, or No 1 Northern Spring, at the price quoted, No 1 Hard Spring at 2 cents premium, No 1 Dark Hard Winter at a $1\frac{1}{2}$ cents premium, No 1 Dark Northern Spring at a 1 cent premium, or No 2 Dark Hard Winter at a premium of $\frac{1}{2}$ cent.

These contracts are not usually fulfilled. Whenever either party to the contract wishes to withdraw he enters into the opposite side of another contract for the same quantity of produce, and through a clearing house mechanism, his two contracts

¹ It would seem to follow from Professor Smith's reasoning that speculation tends to stabilise prices in abnormal times but to increase fluctuations in normal times.

cancel each other Through his broker a sum of money equal to the difference in the prices per unit on the two contracts, multiplied by the number of units specified, is paid to him, or is exacted from him, by the clearing house This sum of money, with adjustments for commissions to brokers, is his profit or loss on the transaction The clearing house, which acts as the seller to all buyers and the buyer to all sellers, disburses (aside from clearing charges) exactly as much money as it receives For all contracts settled by opposite transactions the profits of the successful speculators are exactly equal to the losses of the unsuccessful (commissions being left out of account)

If, in the less usual case, the seller fulfils the contract by delivery of the commodity, the delivery is made to the clearing house by warehouse receipt. The clearing house then delivers the commodity, not to the original "buyer," who has probably long since withdrawn from the market, nor to his successor, for it is of no advantage to the clearing house to keep the trades matched, but to the broker who has the oldest long position with the clearing house The broker in turn notifies his customer of delivery, and the customer accepts the goods and pays the price specified in his contract The difference between the price paid by the purchaser and the price received by the seller is taken care of by the clearing house, but the disbursement or receipt of this sum need cause the clearing house no concern, since during the life of the future it will buy and sell exactly the same amounts at any given price The clearing house still maintains a balance between income and outgo, but the balance is only complete when the future expires So far as the futures market is concerned, therefore, the profit of one group of traders must be balanced by equal losses by other traders

If wheat is delivered on a futures contract, however, the profits and losses of the traders concerned are not entirely accounted for by considering the result of their futures operations Delivery or acceptance of delivery involves transactions in other markets The seller who delivers wheat has previously purchased it (or grown it) The buyer who receives the wheat will sell it as cash wheat, or convert it into wheat products The balance of profits and losses for all traders would be maintained only if each long who accepts delivery resells the cash wheat at exactly the price paid for it by the seller This exact coincidence, of course, will rarely occur, and profits and losses will not balance This may be the situation which Lehfeldt had in mind as a source of profit to professional speculators

It seems hardly possible, however, that any considerable profits for the professional speculator could be associated with delivery. In the first place, professional speculators as a group are not usually interested in delivering or receiving delivery of cash wheat. This is clearly shown by the actions of the seven largest speculators in Chicago wheat futures in the period from December 31, 1926, to October 31, 1927. Each of these speculators had an open interest of at least two million bushels in a single future some time during the period. There were three delivery months in which their behaviour could be scrutinised, but some of the traders did not trade in all deliveries. Five of the traders dealt in all three futures in which delivery was made during the period, one in two futures, and one in only one future. There are, therefore, eighteen instances in which the behaviour prior to the delivery month can be compared with the behaviour during the delivery month. In only five of these eighteen cases was trading in the future continued into the delivery month. Even in these five cases the trading in the delivery month was very small compared with trading in the preceding months. This is shown in the following table, which compares the maximum position of each of these five traders in each future during the period before delivery was possible with the maximum position in the delivery month.

TABLE VI

*Open Commitments of the Large Speculators who Traded in the Deliverable Wheat Future during the Delivery Months of May or July 1927*¹

(Thousand bushels)

Trader No	May Future		July Future	
	Maximum position prior to May	Maximum position in May	Maximum position prior to July	Maximum position in July
5	3,550	730	2,335	0
6	3,655	645	5,670	85
7	6,800	100	5,645	200

¹ None of the seven large speculators traded in the September wheat future in September 1927.

An additional reason for believing that little profit accrues to professional speculators from the process of delivery is the fact that the amount delivered on the Chicago Board of Trade is such a small proportion of the total volume bought and sold

during the life of the future, that any conceivable profit on it would be negligible compared with the profits and losses on other transactions. Information secured by the Grain Futures Administration shows that the volume of wheat futures settled by delivery is usually much less than one per cent of the total quantity sold during the life of the future. In the seven futures for which the actual wheat delivered is known, the amount of wheat used was never more than two-tenths of one per cent of the trading in the future.¹ It must be concluded that this source of profit for the professional speculator is negligible.

One other possible source of profits for the professional speculator is the part which he may play in hedging transactions. It is often stated or implied that professional speculators profit by their participation in these transactions. Lavington, for example, says, "The manufacturer who carries his own cotton may in the long run have suffered no direct money loss, but he will have been continuously subject to imperfectly foreseen changes in his business situation, and he will usually be willing to pay a price for the removal of this evil by buying or selling a future, the price of which will (normally) contain a payment to the speculator for his service in carrying cotton through time."² In considering this possibility the dual nature of all hedging should be borne in mind. A commercial transaction is balanced by an equal and opposite futures transaction. The operation on the organised market is an outgrowth and result of the commercial activities of the hedger. The opening and closing of a hedging account depend upon conditions entirely beyond the control of the speculator. If the hedger makes a practice of hedging all his commercial transactions his future trades will be random actions from the point of view of the futures market, and for a large number of cases the probability that prices will fall during the life of the hedge is approximately equal to the probability that they will rise. If, as is sometimes contended,³ a considerable number of dealers tend to hedge wheat stocks only when they fear a decline in prices, their profits and losses on futures will depend on their ability to forecast prices. If their forecasts are generally correct they will gain from their future trades, if they are more frequently wrong than right they will lose. If they lose, the question arises whether their losses are a

¹ Cf. U.S. Department of Agriculture, *Statistical Bulletin*, No. 31.

² F. Lavington, "The Social Interest in Speculation on the Stock Exchange," *Economic Journal*, March 1913, XXIII, 41.

³ Cf. Holbrook Working, "Financial Results of Speculative Holding of Wheat," *Wheat Studies*, July 1931, p. 426.

source of profit to the expert speculators. The losses as well as the profits from hedging operations arise from a lack of coincidence in prices in the two markets involved. It is of no advantage to the speculator on the opposite side of a selling hedge if flour prices do not increase as much as the December future. Nor would he lose if flour prices should rise more than future prices. Yet in one case the miller hedging would lose, and in the other case he would profit. It is by no means established that hedgers, in the long run, lose on their operations, that they pay a premium for their insurance, so to speak. But if they do there is no reason to believe that speculators pocket the hedgers' losses.

If it is assumed that the expert speculators tend to accept the hedging transactions which prove profitable to the speculator, and the amateur those which prove unprofitable, the situation is probably best described as one in which professionals are profiting at the expense of the amateurs.

It seems impossible to escape the conclusion that the only significant source of profits for any group of traders on the Chicago Board of Trade is the losses of other groups of traders. This raises again the question with which Professors Lehfeldt and Smith were concerned, "Would it be wise to take measures to exclude amateur speculators from the market?"

Although it is clear that the profits of professional speculators as a group are gained at the expense of other classes of traders, one may well doubt whether the professional speculators are so uniformly successful that the elimination of amateurs would destroy the market. It is particularly doubtful whether any feasible measure for reducing the participation of amateurs (such as increased margin requirements) would interfere seriously with the proper functioning of organised produce exchanges.

BLAIR STEWART

*Reed College,
Portland, Oregon*

AGRICULTURAL REORGANISATION AND PRICE CONTROL

I

SUCCESSIVE Governments in this country have recognised the need for some degree of reorganisation in agricultural marketing, and three Agricultural Marketing Acts have been passed ¹ Dr Addison's Act of 1931 concentrates on the granting of facilities for a reorganisation of production and marketing, and to a lesser degree on the provision of powers to enhance price Mr Elliot's first Act of 1933 is mainly concerned to strengthen and extend the provisions which enable the farmers to increase the prices they receive His second Act introduces only minor modifications

This article discusses the powers conferred on farmers by the Agricultural Marketing Acts to control the prices they receive for their products, and the effect on prices and supplies of the more important schemes which have already been put forward It does not deal with the important aspect of the possible improvement of efficiency in marketing and production

Marketing Boards under the Agricultural Marketing Acts of 1931 and 1933 have been set up for hops, pigs and bacon, milk, and potatoes The powers conferred on these Boards for regulating price are wide No producer not exempt from the provisions of the scheme—and the exemptions are in all cases inconsiderable—may sell the regulated product except under the terms laid down by the Marketing Board A marketing scheme under the 1931 Act may provide that all producers should sell only to the Board ² or may

“empower the board to regulate sales of the regulated product by any registered producer by determining for such period as may be fixed by the board—

(1) the kind, variety or grade of the product which may be sold,

(2) the price at, below or above which, the terms on which, and the persons to, or through the agency of whom the product or any kind, variety, grade or quantity thereof may be sold”, ³

¹ Agricultural Marketing Act, 1931, 21 and 22 Geo 5, Ch 42, Agricultural Marketing Act, 1933, 23 and 24 Geo 5, Ch 31, Agricultural Marketing No 2) Act, 1933, 24 Geo 5, Ch 1

² Agricultural Marketing Act, 1931, 5 b

³ *Ibid.*, 5 e

Under the 1933 Act, in addition, any scheme may

“provide for the determination from time to time of the quantity of the regulated product or of any description thereof which may be sold by any registered producer, so, however, that the scheme shall either specify the method of determination or require the board to prescribe it, and, the method of determination may be such as to secure that the quantity (if any) which any particular registered producer may sell is determined wholly or partly by reference to the quantity of that product which was, in some past period, produced or otherwise dealt with on particular land or premises or by particular persons”¹

Thus, first, a Board is given complete powers to enforce its price arrangements upon its members, and secondly, in an unequivocal manner so far as the 1933 Act is concerned, it is enabled to make provisions having the effect of limiting supplies, and so, to a certain extent, of determining the price which the consumers of its products shall pay

Its powers, however, are not unfettered. First, the scheme must be accepted by a majority of the producers. Soon after it is approved by Parliament, a pool of registered producers must be taken, at least two-thirds of the registered producers in number, and registered producers capable of supplying at least two-thirds of the product must vote in favour of the scheme if it is to come into force. Further, if the Minister is satisfied that less than half the producers of the commodity in question, other than those exempt from the provisions of the scheme, voted at the poll, he must revoke the scheme. Once it is in operation registered producers elect the Board to administer it.

Secondly, the interests of consumers are, nominally at least, guarded. Two committees must be set up, a consumers' committee, and a committee of investigation.² The former, representing consumers' interests, is to consider and report to the Minister on

“ (1) the effect of any scheme approved by the Minister, which is for the time being in force, on consumers of the regulated product, and

(2) any complaints made to the committee as to the effect of any such scheme on consumers of the regulated product ”³

The latter has access to the accounts and other papers of the Board, and is, on the instructions of the Minister, to consider and report to him

“ on any report made by a consumers' committee and any complaint made to the Minister as to the operation of any scheme which, in the opinion of the Minister, could not be considered by a consumers' committee ”⁴

¹ Agricultural Marketing Act, 1933, Part III, 10 (1)

² *Ibid*, 1931, 9

³ *Ibid*, 9 (2) b

⁴ *Ibid*, 9 (3) b

"If a committee of investigation reports to the Minister that any provision of a scheme or any act or omission of a board administering a scheme is contrary to the interests of (the ultimate) consumers of the regulated product, or is contrary to the interests of any persons affected by the scheme and is not in the public interest, the Minister, if he thinks fit so to do after considering the report and consulting the Board of Trade,"¹

may amend the scheme by order, direct the board to rectify the matter, or revoke the scheme, the two former with the acquiescence of, and the latter by the consent by resolution of both Houses of Parliament

Thus the final decision as to whether any action of a producers' board shall stand rests with the Minister, with the consent of Parliament. If any policy of theirs appears to injure ultimate consumers, or seems both to injure traders *and* to be against the public interest he may—not must—refuse to pass it.

This, however, is not all the power granted to the Minister by the Marketing Act of 1933. With the exception of a few agricultural commodities, such as liquid milk and potatoes, a substantial proportion of the home consumption is supplied by imports. Over these, also, the Minister is given some measure of control. The Board of Trade, after consultation with the Minister of Agriculture and the appropriate Ministers for Scotland and Northern Ireland, may make an order regulating both the quantity and/or quality, of the importation into the United Kingdom of any agricultural product, if it appears to the Board

"(a) that there have been, or are being taken all such steps as are practicable and necessary for the efficient reorganisation, by means of agricultural marketing schemes of those branches of the agricultural industry in whose interests the order is made

(b) that without an order the effective organisation and development of the said branches under such schemes cannot be brought about or cannot be maintained"²

The Board, in making such an order, must take account of the interests of consumers of the product—and in this case consumers include persons who use the commodity for subsequent manufacture—of the probable effect on commercial relations with other countries, and of existing treaties, conventions or agreements.³

Finally, the Minister may, without the initiative of a producers' Marketing Board, under certain circumstances, control the sales of domestic agricultural produce

"Where

(a) the importation of an agricultural product into the United Kingdom is regulated by an order in force under the foregoing section, or

¹ Agricultural Marketing Act, 9 (5)

² *Loc cit*, 1 (1)

³ *Ibid*, 1 (3)

(b) the Board of Trade certify that arrangements have been made, to the satisfaction of the Board, for controlling the importation of an agricultural product into the United Kingdom,

then, if it appears to the Minister of Agriculture and the Secretaries of State concerned with agriculture in Scotland and Northern Ireland respectively, that an order under this section will conduce to the efficient reorganisation or organised development of any branch of the agricultural industry in the United Kingdom, or is necessary in order to secure the economic stability of any branch of that industry, the said Minister and Secretaries of State, acting in conjunction, may "make" an order regulating sales of the said agricultural product or any related product by persons producing it in the United Kingdom or by boards administering agricultural marketing schemes, by determining for any such period as may be specified in the order —

(i) the descriptions of the product which may be sold,

(ii) the quantity of the product, or of any description thereof, which may be sold;

so, however, that nothing in an order under this section shall apply to any product in so far as it is produced outside the United Kingdom " ¹

The Market Supply Committee referred to in this section is an impartial body appointed by the Minister to advise him in regard to supply control, both of home-produced and of imported produce

It is thus apparent that, both as the person who is responsible for determining the validity of consumers' objections to the actions of producers' boards, and as the authority who can in some measure control both imports and domestic sales, the attitude of the Minister is of fundamental importance to the price policy of Agricultural Marketing Boards

The attitude of the present Minister of Agriculture may be suggested by the following selections from his speeches. In moving the second reading of the 1933 Agricultural Marketing Bill, Mr Elliot said

"So we come bluntly upon the solution that we must seek to establish replacement value as the criterion of what shall be asked from the consumer for the product which he is attempting to consume. We must, therefore, ask ourselves what that level is to be. Is it to be determined by the lowest cost of the most favourably situated producers? It is no longer the national policy to buy all over the world in the cheapest market, because we cannot afford it. The replacement value must be, for the renewal of products which can reasonably be produced in this country as in any other, replacement value here in these islands. Here in these islands we intend to ensure that British agriculture shall continue to thrive, and, if we can ensure it, to flourish " ²

Again, in supporting the Order compulsorily to restrict imports of Danish bacon, he said,

¹ *Loc cit*, 2 (1)

² *Parliamentary Debates, House of Commons, Official Report*, Vol 275, No 48, March 13th, 1933, p 1631.

"While it was most desirable that the price of staple foodstuffs should not be pushed to unreasonable heights, it was a little unfair of hon. members to advance arguments based on the fact that bacon had been placed entirely out of the range of the working classes. If it was within their range in 1930, it was a little unfair to say that to day, when it was nearly 3d a lb lower, it was out of their range." ¹

From all his speeches it is fairly clear that Mr. Elliot believes not only in maintaining, but in raising the prices of British agricultural products, and that his interpretation of "replacement value" to British farmers is not necessarily merely a price which would induce them to maintain their present level of production, but one which would stimulate them to increase it—"Every one desired a greater production of food in this country." ² It seems reasonably certain that he would be sympathetic to a plan to raise prices by charging different prices for the commodity according to the uses to which it is to be put, or by a scheme which depended upon limitation of imports, provided that it also involved some degree of domestic reorganisation. It is not equally clear how ready he would be to assent to plans which necessitated any substantial increase in the home price accompanied by a restriction on home production.

In order to take full advantage of the powers granted to them under the Agricultural Marketing Acts, and in order to induce the Minister to use his powers of limiting foreign competition, farmers must thus adopt Agricultural Marketing Schemes. Five schemes are at present in force in England and Wales, and others are under consideration. The Hops Marketing Scheme and the Potato Marketing Scheme were put forward by the farmers' representatives themselves. The Milk Marketing Scheme and the Pigs and Bacon Marketing Schemes were originally devised by Reorganisation Commissions appointed by the Government. All the Boards except the Bacon Marketing Board are representative of producers. The latter represents curers, and negotiates prices and contract terms with the Pigs Marketing Board. Some idea of their importance may be obtained by comparing the approximate output in 1930-31 of the products with which they deal. Hops represented only about $\frac{1}{2}$ per cent of the total output in England and Wales of livestock products and farm crops, potatoes about 7 per cent, milk and milk products about 31 per cent, and bacon about 4 per cent.

II

The farmer's main objective in accepting these schemes was undoubtedly the hope of higher prices. Prices may be raised,

¹ Reported in *The Times*, November 16, 1933

² *Ibid.*, November 25, 1933

(1) By stimulating demand—i.e. raising the consumers' demand schedule

(2) By reducing the margin which the middleman is prepared to accept, either by lowering costs or by increasing bargaining power, and so raising the demand schedule of the middleman

(3) By reducing imports, and so raising the demand schedule for the home product

(4) By reducing sales, either as a whole, or in the most profitable market, while leaving the individual farmer free to produce as much as he likes

(5) By reducing production, through various forms of limitation on the output of each individual

It is not intended here to discuss the two former of these methods, in so far as they depend upon the improvement of the quality of production, upon standardisation and grading, or upon advertisement. Since it is not apparently proposed to supersede the existing channels of distribution, the effects of the schemes upon marketing costs will probably be limited to the economies which can be made as a result of better graded produce, and to the additional costs involved by the expenses of the Marketing Boards. The compulsory 100 per cent membership, with its attendant prevention of undercutting, will no doubt increase the bargaining power of the farmers. It is, however, highly doubtful whether it will allow them to increase their price much at the expense of the middleman.

The third method, the limitation of imports, has been extensively used, but cannot be enforced by the Marketing Boards themselves. It is only by using the remaining two methods that they themselves can hope substantially to raise prices. The fifth method, the limitation of *production*, has not hitherto been applied, except in the case of a comparatively small tax on any increase in potato acreage. The fourth method, however, the limitation of *supplies* on the market, has been used by all the Boards except the Bacon Marketing Board. Clearly, in the short period, if the effect on subsequent production be ignored, producers would gain by limiting supplies on any market where the demand is less elastic than unity, even though the surplus product were thrown away. If the surplus product can be sold, though at a less remunerative price than in the main market, then it would pay to limit supplies on the main market even though demand were somewhat more elastic than unity, and to charge discriminating prices.

Hops

The policy of the Hops Marketing Board ¹ is conditioned by the following characteristics of the crop. The demand for hops is inelastic, their one outlet, except for the ruinous alternative use as manure, is beer, the cost of the hops is but a very small part of the cost of the beer. Imported hops are not a complete substitute for the home-grown variety, as brewers prefer to use a proportion of each. Hop vines vary much in yield from year to year, but hops may be stored, after two years' storage their value for brewing purposes declines substantially. So far as import restriction is concerned, no alteration has been made to the £4 a cwt import duty imposed by the Finance Act of 1925. A committee representing the Hops Marketing Board, the Brewers' Society, and the Ministry of Agriculture has recently agreed to limit the importation of hops to 15 per cent of the total market demand, ² hitherto nearly a quarter of the consumption of hops has been imported. This agreement will be enforced, if necessary, under the Agricultural Marketing Act.

The Hops Board takes possession of all its members' hops and sells to the brewers at a price determined by bargaining. The brewers have guaranteed to contract in advance for at least two-thirds of their needs, and to compensate the Board for any of the remaining third which is unsold at the end of the season ³. Any surplus above the brewers' not very variable needs the Board must either store, or sell at a very low price for manure. Its success in lifting price must therefore depend partly upon its power to segregate the surplus, and partly upon the fact that, since the cost of hops forms such a small part of the cost of beer, brewers can to a certain extent be squeezed without any increase in the price of beer.

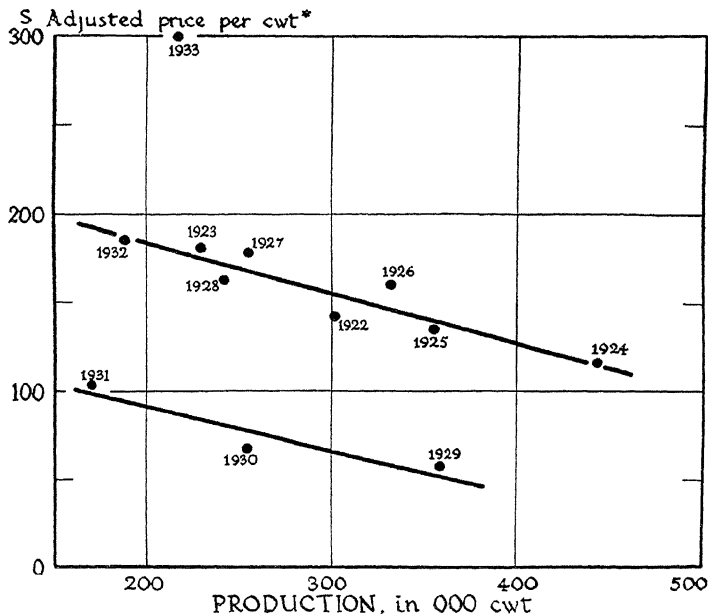
The Hops Board has so far marketed the two crops of 1932 and 1933, and has had no surplus to dispose of, owing to medium crops and favourable demand conditions. The effect of organisation on price is strikingly shown by the diagram. From 1917 to 1924 the State-enforced Hop Control operated, and from 1925 to 1928 the voluntary English Hop Growers Ltd, controlling initially 90 per cent of the hop acreage, was in existence. Only in 1929, 1930 and 1931 was marketing unorganised. Conditions were particularly favourable for the sale of the 1933 crop. The duty on beer was reduced in April, 1932, demand was stimulated by the repeal

¹ See *The Hops Marketing Scheme (Approval) Order* S R and O, 1932, No 505.

² See Report of the Committee, Cmd 4628.

³ *Ibid*

of prohibition in America, and the hops were of unusually high quality. Thus the price realised in 1933, averaging £15 a cwt, was exceptional. For the next five years an average price of £9 a cwt has been agreed upon by the committee representing growers, brewers, and the Ministry of Agriculture¹. This price slightly exceeds that obtained in 1932, and, though somewhat less than the average realised in the previous years of organised bargaining,



THE RELATIONSHIP BETWEEN THE ADJUSTED PRICE OF HOPS AND THE VOLUME OF HOP PRODUCTION

* The adjusted price is the price per cwt divided by the Ministry of Agriculture's Index of Agricultural Prices, 1933 = 100

1922 to 1928, is higher, relatively to general agricultural prices, than in these years

In 1923 and 1924 sales were compulsorily limited by the Hop Controller, and from 1925 to 1928 acreage was restricted by voluntary agreements by members of the Co-operative Association, non-members, however, increased their acreage substantially, thus bringing about the collapse of the Association

Thus a price as high as the agreed price of £9 a cwt made necessary some restriction on acreage before the advent of the

¹ See Report of the Committee, Cmd 4628

Marketing Board Now it is still more necessary The Hops Marketing Board must now accept all a grower's hops, at the same price, whereas previously growers who sold all their output to one brewer may well have been discouraged from planting more vines by the knowledge that the brewer would only accept a limited volume

The Hops Marketing Board fully expect an expansion of acreage, and to prevent this have put forward proposals for an individual production quota ¹ The brewers have agreed to this course in return for the bargain limiting prices to £9 a cwt, and the amended scheme awaits sanction by Parliament

The general principle of the quota is that each producer is to be given a basic quota, equal (in general) to the average quantity of hops picked on his farm from 1928 to 1932 inclusive Each season the Board will estimate the total market demand for hops, and give to every producer a quota which forms the same proportion of the estimated total demand as his basic quota does of the total of basic quotas Quota hops will be paid the full price, hops in excess of the quota will only receive the small sums realised for hops sold as manure, unless some growers produce less than their quota amounts If the market demand exceeds 110 per cent of the total of basic quotas, then new basic quotas are to be allotted to the highest bidders ²

Clearly this provision, when in force, as it most probably will be this year, must discourage production by persons not at present growing hops, and must limit the rate of expansion of existing growers

Potatoes

The Potato Marketing Board ³ only began operations when the 1933 crop was largely sold It has to deal with both maincrop and early potatoes

The elasticity of wholesalers' demand for maincrop potatoes sold by growers is substantially less than unity for large crops Thus a limitation of supplies sold for human consumption will certainly increase the producers' total returns, even if no outlet at all can be found for the small-sized "surplus" potatoes In fact they can realise some return if fed to stock

¹ See *Draft of Amended Scheme under the Agricultural Marketing Act, 1931, Regulating Marketing of English Hops*, published by his Majesty's Stationery Office

² For a more detailed description see *The Agricultural Register, 1933-4*, Agricultural Economics Research Institute, p 84

³ See *The Potato Marketing Scheme (Approval) Order, S R and O, 1933, No 1186*

Under the Potato Marketing Scheme the Board is to take advantage of these conditions. Each year it will estimate, as early in September as possible, the total quantity of potatoes available for human consumption until the end of the next August. If, in the opinion of the Board

“this quantity is likely to be substantially in excess of the estimated total quantity of potatoes required for human consumption in Great Britain, then the Board may from time to time determine, in such manner as the Board shall prescribe, the quantity of potatoes or any description thereof, which may be sold by any registered producers”¹

No definition is attempted of “the quantity required for human consumption,” though it is clear that this amount must vary with the price charged, since the demand is not entirely inelastic. It is contemplated that, in general, the Board will limit supplies in any year of large production by prescribing a minimum sized riddle for each variety of potatoes, and prohibiting the sale for human consumption of potatoes which pass through this riddle. Thus from March to July, 1934, a minimum riddle of $1\frac{1}{2}$ inch for some varieties, and $1\frac{3}{4}$ inch for others was substituted for the $1\frac{1}{2}$ inch riddle in general use. It is intended by this means to segregate the potatoes least suitable for human consumption, in order to maintain the price of the remainder. The producer is at liberty to dispose of his surplus potatoes, that is to say, the potatoes which pass through the riddle, in any manner, except for human consumption, that he desires. But such potatoes can only expect to realise a relatively low return.

This surplus segregation, when applied, must raise prices. It will have no effect on the perfection of the market. Thus it might be expected to stimulate production. The framers of the scheme foresaw this, and inserted provisions to discourage the increase. Producers who intend to increase production must notify the Board in advance, and will be advised against such action if the Board considers that market conditions do not justify it. Such advice would probably be some check on acreage increases. Further, if a farmer plants more than his basic acreage (that is to say, with certain minor modifications, the area planted in 1933, or on the average of 1931 to 1933, whichever the farmer selects), the Board may impose a non-recurring fine on the excess acreage of not more than £5 an acre. Any area thus fined will subsequently be added to the producer's basic acreage. With an average potato crop of $6\frac{1}{2}$ tons an acre, this fine averages about

¹ See *The Potato Marketing Scheme (Approval) Order*, S R. and O., 1933, No 1186, Section 68.

15s a ton, capitalised at 5 per cent it amounts to no more than about 9d a ton per year, or roughly $1\frac{1}{3}$ per cent of the grower's prices for potatoes. Such a fine is hardly likely to discourage growers who intend to increase their acreage permanently, though it may well prove a deterrent to in-and-out producers, who are induced to grow potatoes by temporary price rises. For a producer who wishes to expand acreage for one year only the fine would amount to about 30 per cent of his expected price.

In addition, it is contemplated that imports will be restricted. Mancrop potatoes are at present subject to a duty of £1 a ton, and exporting countries have agreed voluntarily to limit their shipments. These restrictions have, however, probably had little effect on the prices of mancrop potatoes, since in years with as large a home crop and as low a home price as in 1933-34, only about 1 per cent of the requirements of mancrop potatoes were imported, and on the average of 1922-23 to 1932-33 no more than 4 per cent. This low volume of imports was largely due to the synchronisation of fluctuations in yield in Great Britain and in neighbouring countries, and the resultant similarity in the movement of prices. If a marketing scheme in Great Britain were to raise prices—as it is intended to do—in years of large crops, then it might well be that a volume of imports far larger than hitherto would enter the country, and lower the price. The Potato Marketing Board thus justifiably regards its activities as dependent upon the control of imports, though it probably exaggerates the importance of their exclusion as a price-raising factor. It is likely, in fact, that the Minister of Agriculture will take steps to prevent the influx of imports nullifying any rise in price occasioned by surplus segregation.

The Potato Marketing Board cannot, for technical reasons, use the device of a minimum-sized riddle to raise the price of early potatoes, but must depend on import restriction. Imports form a third to a half of the total supplies of new potatoes, and are at present limited partly by relatively high tariffs, variable from month to month, and partly by the voluntary limitation of imports. It is unlikely that early potato prices will rise substantially until consumer incomes improve. In 1933, imports of early potatoes were only about half those in the previous year, while the home crop was of much the same size, prices of new potatoes from April to July were only about 75 per cent of those in 1932. This decline can only be attributed to the reduced purchasing power of consumers.

Milk

The Milk Marketing Board¹ cannot expect much help from import restrictions so long as Empire supplies remain uncontrolled, as under the Ottawa Agreements they must be until November 1935. About 80 per cent of this country's milk production in winter, and from 50 to 60 per cent in summer is used as liquid milk, and sold in a market protected from foreign competition by the difficulty of transportation. The remainder is sold mostly as butter, cheese, cream or condensed milk, and is subject to overseas competition. The price of these products is partly protected by tariffs, in so far as imports come from foreign countries, and, in the case of cream and the processed milks, by voluntary restrictions. In 1933, however, 58 per cent of dairy product imports, expressed in terms of milk equivalent, came from Empire countries. The demand for butter, the only important product which comes to a large extent from foreign countries, is elastic.

Before the scheme came into operation the marketing of milk was not entirely unorganised. Some buyers, mostly dealers supplying London and other large cities with liquid milk, bought under the terms negotiated annually since October 1922 by the Permanent Joint Milk Committee, composed of representatives of the National Farmers' Union and of the National Federation of Dairymen's Associations. Two prices were recognised, "liquid" and "manufacturing" price. The latter was based on the price of imported cheese, a fairly good measure of the price which could be obtained for milk turned into cheese in this country in factories. The liquid price was paid, under the form of contract most commonly used, for a proportion of the supplies in any month, averaging over the year 80 per cent, and supposed to represent the proportion of total purchases which could be sold for liquid consumption, manufacturing price was paid for the remainder. The two prices, which in the earlier years of the operation of the scheme had been much the same towards the edge of the milk sending area in the summer months of manufacture, had since 1929 begun to diverge substantially.

A great many buyers who manufactured the bulk of the milk they purchased into cheese, butter, or other products, especially those in the less accessible regions, did not use these contracts, and paid a price well below the Permanent Joint Milk Committee's price for liquid milk. Some of these buyers sold a part of their

¹ See *The Milk Marketing Scheme (Approval) Order*, S R and O, 1933, No 789.

milk—and a part which they endeavoured to increase as the spread between the two prices widened—on the liquid market

Some producers manufactured their milk themselves into butter and cheese. Rather under a fifth of the milk in the country was sold by producer retailers, in markets frequently limited. Finally, some producers, in specially favourable positions, were paid by dealers liquid price for all their milk.

Such was the position before the Milk Marketing Scheme came into force. It was believed that, in the absence of any compulsory scheme to limit undercutting, the price of liquid milk would have to fall more nearly to that of milk manufactured, since a number of dealers who paid only the manufacturing price were cutting into the liquid market of dealers buying under the Permanent Joint Milk Committee's contracts.

The Milk Marketing Scheme prevents undercutting. All producer-retailers, and all producers owning more than four cows and selling to others than their servants or households, are brought within its scope. All producers selling wholesale must sell their milk through the Board, which charges substantially different prices for the milk according to the uses to which it is put. These prices were to have been determined during the first year of operation of the scheme by negotiation between the Milk Marketing Board and representatives of the distributors, together with persons appointed by the Minister, since no agreement could be obtained, prices were in fact fixed by three arbitrators appointed by the Minister.

Liquid milk prices averaged about 1s 4d a gallon from October to February, 1s 2d in March, and 1s from April to September. Just over one-half of the manufacturing milk was made into cheese and butter, at prices based on the price of imported cheese, and ranging during the winter from 3½d to 4½d a gallon. Milk made into other manufactured products was charged at its realisation value, in some cases as much as 9d a gallon. The spread between the different categories of manufacturing milk is, however, tending to narrow as a result of substitution of products charged at the lower rates for those charged at the higher. There remains a spread of 5d to 6d a gallon between average liquid and average manufacturing price.

The liquid price, both for summer and winter, averages much the same as the liquid price payable in the previous year under the Permanent Joint Milk Committee Scheme. But, as it *must* be paid by all dealers selling on the liquid market, it probably represents an average increase in liquid wholesale prices, particularly

in the summer months when fewer buyers previously paid the contract price. Further, in the absence of the scheme, undercutting would almost certainly have pulled down liquid prices nearer to manufacturing prices. The basis of payment for manufactured butter and cheese is the same as in previous years, but no data exist to compare the prices paid for other products.

All producer-retailers and other retailers were from October 1933 to March 1934 prohibited from selling milk at less than the "prevailing retail price" for their district, and since April must charge minimum margins between the retail price and the Board's liquid selling price, these margins vary from 8d a gallon in rural areas to 10d a gallon in large towns. They have been established partly to prevent undercutting by the producer-retailer and partly as part of a bargain with the dealers, for certain concessions granted by them in the details of the price agreement.

Retail liquid milk prices from November 1933 to June 1934 averaged $\frac{1}{4}$ d a quart more than in the corresponding months of the previous year.¹

Eleven district pools are operated. Each is made up of (i) the payments by dealers for milk supplied from that region, (ii) producer-retailer contributions, (iii) any payments from the inter-regional compensation fund and (iv) the Government subsidy on manufactured cheese.

Producer-retailers pay a levy to the district pool in their region, as their contribution for the maintenance of the pool price. This levy equals, on each gallon of milk that they sell, the amount of the inter-regional compensation levy plus three-quarters of the difference between the liquid price of the region, minus the inter-regional compensation levy, and the pool price for the region.

The inter-regional compensation levy, hitherto charged at 1d a gallon, is designed to compensate in part the regions where a large proportion of the milk is manufactured for their exclusion from the liquid market by the elimination of undercutting. The levies from each district are placed in a national fund, which is paid out to the districts with the lowest pool prices. From October to February only 85 per cent of the amount collected in any month was paid out in that month. The remainder was accumulated for distribution in summer months, when a large proportion of the milk supply must be manufactured. In March and April the whole amount collected was distributed in the same month, and in May, also part of the fund accumulated during the winter.

The Government has guaranteed to the Board from April 1,

¹ *Ministry of Labour Gazette*

1934, a price of 5*d* a gallon in summer and 6*d* a gallon in winter for milk manufactured into cheese or other products. Accordingly they will pay to the Board, to be credited to the pools, the difference between the realisation prices for cheese or other manufactured products and these amounts on each gallon of milk manufactured or turned into cheese on farms. This payment is to be repaid if and when the realisation value of milk turned into cheese exceeds 6*d* in summer or 7*d* in winter.

From the pools must be deducted, first, the expenses and reserve fund of the Board, now assessed at $\frac{1}{4}$ *d* a gallon, and, secondly, 1*d* per gallon of milk made into hard cheese on farms, and $\frac{1}{2}$ *d* per gallon for milk made into soft cheeses, which the Board has offered to pay to farm cheese-makers, in addition to the Government subsidy, in order to induce them to keep their milk on the farms. The remainder of the pools is divided between the producers supplying dealers in that region, in proportion to the volume of milk supplied by each. Thus every producer in any region receives the same amount, at the buyer's station, plus any special sums due to him for regular deliveries throughout the year. Producer-retailers receive a price related to the price paid to other producers.

Average regional pool prices, from October to February, were in the neighbourhood of 1*s* 2*d* a gallon. In March they fell to about 1*s*, and in April to about 10 $\frac{1}{2}$ *d* a gallon. They showed a maximum range of 2*d* a gallon from the highest priced South-Eastern region, to the Western districts with the highest proportion of manufactured milk.

No exact data exist to compare these prices with those received in previous years. Farmers near the markets, selling the bulk of their milk liquid, have probably lost as a result of the scheme, while farm cheese-makers, and those previously selling the bulk of their milk for manufacture, have gained. Farmers previously selling on the old Permanent Joint Milk Committee contract terms probably receive much the same price this year as last, though more than they would have had but for the scheme.

The scheme has also probably rendered the market more perfect to a number of producers. The Milk Marketing Board, under the terms of the scheme, must accept any milk when producers can find no market for it, and pay for it in the pool price, less not more than $\frac{1}{2}$ *d* per gallon, a deduction which hitherto has not been made. Previously a number of farmers supplied local markets, or dealers who were only prepared to accept a limited amount of milk, particularly in the summer. The scale of produc-

tion of both these classes was therefore checked by the impossibility of disposing of more than a certain volume of milk. The scheme contains no direct provisions for limiting production. Thus, while it may lead to some contraction of production from producers nearest to the markets, it will probably involve on balance an expansion, particularly in the summer months. Certainly it will result in higher production than would have prevailed in its absence. The extent of the increase will depend to a large extent upon the profitability of other forms of farming.

Pigs

The marketing of bacon is now in the hands of two Marketing Boards. The Pigs Marketing Board ¹ represents the farmers and negotiates with the Bacon Marketing Board ² representing the curers. A Development Board ³ is in contemplation, to be composed of representatives of the two Boards, and to take over the major part of their price control functions.

The Marketing Scheme deals only with bacon, which has hitherto represented about 30 per cent of the pig meat production in Great Britain, the remaining 70 per cent being used as pork, imports of which are prohibited on account of transmission of animal diseases. About 85 per cent of Great Britain's bacon consumption was imported during the crop years 1927-28 to 1931-32, of which over 90 per cent came from foreign countries. It is now intended to stabilise total supplies of bacon and hams in the United Kingdom at 10,670,000 cwt—the estimated average supplies available from 1925 to 1930, a period when imports were 22 per cent less than in 1932. It was believed that this reduction of total supplies would engender a price sufficiently attractive to increase the home production of bacon pigs. Home producers contract with the bacon factories for the quantities of pigs they will deliver in any year. No limitation was initially placed on the volume of their contracts, which in October 1933 were 50 per cent greater than was expected, but it is intended that the future rate of increase should be limited to 10 per cent every four months. The volume of imports which may enter the country in any year is then fixed under the Agricultural Marketing Act at 10,670,000 cwt minus the volume of home bacon contracted to factories.

From September 1933 until April 1934 the farmers were given

¹ See *The Pigs Marketing Scheme (Approval) Order*, S R and O, 1933, No 686.

² See *The Bacon Marketing Scheme (Approval) Order*, S R and O, 1933, No 683.

³ See *The Bacon Development Scheme*, published by the Pigs and Bacon Marketing Boards.

additional security by being paid for their bacon pigs a minimum price based on the prices of feeding stuffs, which form 75 to 90 per cent of the cost of producing pigs, and varying also with the quality of the pig. It represented a slightly higher price than that prevailing in previous months, when prices appeared to be at the depth of the pig cycle. In very few months between 1925 and the end of 1931 were actual bacon pigs prices as low as they would have been if the formula price had been in force¹. Thus the minimum price hardly represented an increase in bacon values to the 1925-30 level.

It was hoped, however, that the effect of import restriction would be to permit the producers to bargain with the curers to pay a price higher than the formula price. The Re-organisation

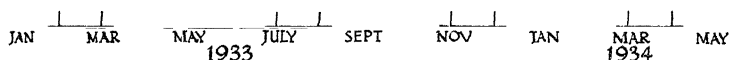
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1-6

English Wiltshire

1-0

Danish Streaky



AVERAGE RETAIL PRICES OF ENGLISH WILTSHIRE AND DANISH STREAKY BACON AT HARROD'S, BARKER'S AND SELFDRIDGE'S IN 1933 AND 1934

Commission assumed that if, by cutting imports, total supplies could be reduced to the level of 1925-30, then the price received by pig producers, both domestic and foreign, should be able to be increased to the prices prevailing in those years. The decline in purchasing power was ignored. Further, it appears that, at the moment, British and Danish bacon are to a large extent non-competing commodities. During 1933 imports of bacon from Denmark were progressively reduced, until November 1st by voluntary agreement, and subsequently by Order in Council. The diagram indicates that in fact the main result of this restriction has been to lift the price of imported bacon. Until the application of the formula price in November, the prices of British bacon pigs did not rise. However, in spite of a great increase in volume, the price of home bacon did not fall. The limitation of imports and decrease in total supplies, though efficacious in enabling a larger

¹ Murray, K. A. H., *The Farm Economist*, Vol I, No 1, p 6

volume of home bacon to be absorbed at much the same price, have not, as the Commissioners hoped they would, increased the price. Consumers have not turned from Danish to English bacon as a result of the narrowing of the price spread between the two.

With the present low level of purchasing power, not only does it seem impossible to pay more than the formula price for bacon, but also, in all probability, price will even fall below this level. In the first contract period, when farmers contracted to deliver nearly 50 per cent more pigs than was expected, and when wholesale prices of English bacon did not rise, curers, paying the formula price, found themselves faced with substantial losses. A loan of £160,000 was made out of public funds, to be repaid by a levy on pig producers in the ensuing months of the new contract period.

Subsequently, however, until the end of 1934, the basis of payment has been readjusted to take into account the realisable price for English bacon, and to divide between farmers and curers any gain or loss from its fluctuation¹. In May 1934 the average wholesale price of Wiltshire bacon was about 99s a cwt, and the basic price of bacon pigs 11s 11d a score, and by June it had fallen to 11s 8d, a level below the original formula price.

Supplies are not to be further restricted and therefore there seems to be little reason to expect a rise in British bacon prices, consequently bacon pig prices are unlikely to rise to any important extent as a result of the Marketing Scheme. They will, however, be stabilised, at any rate partially. In addition average prices may be increased, even though the price of every grade is left unchanged. The Pigs Marketing Board's system of payment by quality has already led to a remarkable increase in the proportion of pigs going into the higher grades.

The introduction of the scheme led to a large increase in the number of pigs coming forward on the bacon market, though actual supplies fell short of the contracted amount. Part of this increase was undoubtedly at the expense of the pork market, as evidenced by the relatively high prices of pork pigs. The other part represented an increase in the number of pigs. It is, however, doubtful how far this expansion may be expected to be permanent. No important difference has been made by the scheme to the perfection of the market. Some producers may maintain their numbers as a result of the greater price stability offered by the scheme. Others may do so as a result of the higher returns following the improvement in quality which has already shown itself.

¹ For details see the *Journal of the Ministry of Agriculture*, Vol XL, No 12, March 1934, p 1165.

It remains, however, fairly clear that a part of the increase in production was due to unduly sanguine expectations of the effect of the scheme on prices. Bacon pig prices have not been raised substantially compared to feed prices, and it is this relationship which largely determines the quantity of pigs¹. Further the formula price, which is unlikely to be exceeded, appears not to cover present costs for many producers. The calculations on which it was based over-estimated the number of pigs weaned per sow, adopted as a basis the number of pigs weaned instead of the number marketed, and postulated an unusually high standard of efficiency in feeding². It is unlikely, therefore, that the whole of the increase in the number of pigs will be for long maintained.

It would thus appear that the Hops Marketing Scheme has raised prices and will increase acreage unless the quota provisions are put into force. It is too early to say what effect the Potato Marketing Scheme will have on prices, though it has it in its power to increase them, its action in this respect may well be conditioned by the response of acreage. The Milk Marketing Board, if it has not raised prices, has at least maintained them, again the prices prevailing may well have been determined by the necessity of preventing an expansion in acreage. The Pigs Marketing Scheme so far has had little effect on home bacon pig prices, but has led to an increase in production, partly owing to over-sanguine expectation on the part of producers, but partly by offering greater stability, and by stimulating higher quality production.

RUTH L. COHEN

June, 1934

*Agricultural Economics Research Institute,
Oxford*

¹ Murray, K. A. H., "The Future Development of the Pig Industry in Great Britain," *Empire Journal of Experimental Agriculture* Vol. 1, No. 3, September 1933, p. 219.

² Menzies-Kitchen, A. W., *The Farm Economist*, Vol. I, No. 2, p. 26.

THE PURCHASING-POWER OF IRISH FREE STATE FARMERS IN 1933

THE tables printed below represent in the main an effort to project into 1933 information analogous to what is officially published for 1926-27 under the title "The Agricultural Output of Saorstat Eireann." An official estimate, similar in scope but less detailed in character, is published in the Statistical Abstract for 1933, with reference to the year 1929-30. The year of official inquiry for most of the live-stock and live-stock products is the twelve months ending 31st May. For potatoes the twelve months' period ends on 30th June, for barley on 31st August, and for all other crops on 30th September. The comparison between 1926-27 and 1929-30 enables a trend to be calculated which is useful in making estimates for 1933. The figures shown in the third column of each of the tables relate to the Calendar year 1933, except in the case of pigs, where the recently published report of the Pig Industries Tribunal gave them in a more convenient form with reference to the live-stock year ending 31st May, 1933. The first six weeks of that period were the last six weeks of normal commercial relations with Great Britain.

A British import duty of 20 per cent *ad valorem* was imposed on 15th July, 1932, raised to 30 per cent on 9th November, 1932, and to 40 per cent on 13th November, 1932. It is probable that the figures for the Calendar year 1933 would have been even more unfavourable than those shown for the period ending 31st May, 1933. These British duties on pigs were, of course, part of a general system of import duties on Free State agricultural exports. They must have contributed in an important degree to the lowering of the money incomes of our farmers, but no attempt is made in this paper to determine by how much. The main object of the paper is to estimate as closely as possible the money receipts and money incomes of Free State farmers in that year. We are at present experiencing an industrial revival in the Irish Free State, and a similar phenomenon is taking place on a larger scale in Great Britain. The increasing prosperity in both countries appears to be confined to the non-agricultural populations. There is an old-fashioned belief that industrial prosperity cannot develop

very far unless agricultural purchasing-power is somehow maintained, both at home and abroad. The events of the next few years should prove whether this belief is well-founded, and meanwhile the facts relating to agricultural purchasing-power in one mainly agricultural country should possess at least an academic interest for non-agricultural populations both here and elsewhere.

In arriving at the figures for 1933 it was necessary to rely mainly on the Trade Statistics for that year, supplemented by officially published figures showing the produce of crops, prices at markets and fairs, and numbers of live-stock.

That part of agricultural income which takes the form of produce consumed in kind in agricultural households has, of course, increased in 1933. No monetary transactions are involved in the transfer of produce from the farmyard to the kitchen, and no attempt is made in this paper to assign a money value to this part of agricultural income. If the rest of the community is directly affected by the fate of agriculture, the variation in the volume of the monetary transaction of farmers will be the channel through which any such influence will be transmitted.

It was important to distinguish that part of the farmers' money receipts which was obtained for produce sold and eventually consumed in the home market from the other and larger part which, even in 1933, he still obtained in respect of produce sold and consumed abroad. Strictly speaking, the home market consists of 1,156,000 persons who, according to the Census of 1926, lived in towns and villages. The agricultural community then numbered 1,815,000 persons. It is considered that the latter figure still represents the number of persons who have direct access to the fruits of the soil, either as members of farmers' households, or as farm labourers receiving allowances in kind, in addition to money wages, and cultivating the acre usually attached to their cottages.

In the case of produce, such as eggs and farmers' butter, which requires no "processing," or is processed on the farm, no monetary transactions take place in connection with that part of it which is consumed in agricultural households. In such cases the home market is represented by the non-agricultural community, and all sales for money relate to the consumption of that community at home and the export market abroad. In other cases, *e.g.* beef, it is not possible to process the articles for consumption on the farm. Accordingly the farmer sells his fat cattle for money, and buys, in retail quantities, from the butcher whatever beef he consumes. Hence the home market for beef represents more than

the consumption of our non-agricultural community. A certain number of sheep and lambs, and a certain number of pigs, are slaughtered on farms for consumption in farm households, but this represents by no means all the sheep and pig products consumed in such households. Here again the home market for monetary sales is wider than the non-agricultural community.

In highly specialised Creamery districts the farmers make no butter at all at home, but purchase their requirements from the Creamery, paying for it by deduction from their monthly cheques. The home market for oats, barley, and wheat is also wider than the non-agricultural community. It is impossible to segregate that part of the produce which is sold for money in the first instance, and ultimately bought back, after processing, for consumption in farm households.

Thus the size of the home market varies with the character of the product. In general the term is used in contrast with purely subsistence agriculture. From the point of view of this paper the home market resembles the export market inasmuch as it gives rise to financial transactions between farmers and non-farmers. The money value of the home market thus represents the money receipts of farmers in respect of produce ultimately consumed by the non-agricultural population, and, in addition, an unascertainable amount in respect of produce ultimately consumed by the agricultural community itself.

"Gross output" means that portion of total production which is sold off farms, or consumed in farm households, together with increases in stock between the beginning and end of the year of inquiry. It does not include that portion of farm produce which is "used for further agricultural production" in the Irish Free State, whether that portion was used on the farm on which produced, or sold by one Free State farmer to another. Thus the total production of potatoes in 1926-27 was 1,932,000 tons, while the "output" was only 741,000 tons, largely because 898,000 tons were fed to live-stock.

Increases in stock form no part of monetary receipts. Accordingly, it was necessary to exclude as far as possible the money value of such increases in preparing these tables. In the official record of Agricultural Output for 1929-30 exports and additions to stock of cattle and calves appear as 708,000 in number, whereas the exports for 1929, and again for 1930, averaged 800,000 for the two years. The explanation is that stocks of cattle and calves were reduced by 100,000 on 1st June, 1930, as compared with 1st June, 1929. As 70,000 of these were calves under one year, I have

estimated the financial value of the 100,000 at £700,000, and added this amount to the official figure in order to arrive at the total monetary receipts from cattle and calves in 1929-30. Thus the total money receipts of Free State farmers in that year were swollen by a substantial amount which represents a realisation of capital assets. Similarly in the twelve months' period to 31st May, 1933, stocks of pigs were reduced by £308,000. This amount has been included in the purchasing-power derived from pigs in that period, which is shown in the third column of Table I.

TABLE I

Showing Money Receipts of Irish Free State Farmers from the Sale of Live-stock and Live-stock Products in (1) the Home Market, (2) the Export Market

		1926-1927	1929-1930	1933
Milk and Milk products	(1)	£3,218,000	£3,986,000	£3,560,000
	(2)	3,791,000	4,311,000	2,215,000
Cattle and Calves "	(1)	1,874,000	1,855,000	1,700,000
	(2)	11,454,000	13,800,000	6,753,000
Sheep and Lambs	(1)	1,315,000	1,341,000	1,200,000
	(2)	1,133,000	1,663,000	439,000
Pigs and Pig products	(1)	2,049,000	2 187,000	1,523,000
	(2)	5 416 000	5,746,000	2,082,000
Poultry " "	(1)	170 000	170,000	270,000
	(2)	720 000	720,000	417,000
Eggs	(1)	929 000	1,056,000	896,000
	(2)	2 925,000	2,887,000	1,078,000
Horses	(1)	203,000	172,000	200,000
	(2)	1,031,000	1,422,000	785,000
Wool	(2)	685,000	822,000	352,000
"Fallen" Hides	(2)	107,000	179,000	150,000
Honey and Feathers	(1)	11,000	11,000	11,000
" " "	(2)	49,000	49,000	49,000
Total Live stock and Live stock Products		37,080,000	42,377,000	23,680,000
Sales in	(1)	9,769,000	10,778,000	9,360,000
" "	(2)	27,311,000	31,599,000	14,320,000

Up till recently the Irish farmer's cattle were his bank. When he wanted more money, and prices were favourable, he sold more cattle than usual. At other times he allowed stock to accumulate.

The export value of cattle and calves, shown in the third column of Table I, includes an estimate of 100,000 cattle smuggled across the Border, at an average price of £10 6s per head, which was also the average price of the 590,000 cattle exported by legitimate routes. Smuggling is now an elaborately organised international industry, and it is very much to be desired that those concerned in it should realise the importance of making statistical returns. The home consumption of beef was estimated at 200,000 cattle in

1933, as compared with the official figure of 123,000 for 1926-27, and 122,000 for 1929-30. A deduction of £400,000 is made from the export value of cattle and calves in 1933, representing the estimated cost of transport to the point of exit.

The figures £6,753,000 and £439,000, shown in the third column of Table I, include, in addition to the value of cattle and calves, and sheep exported alive, the export value of fresh beef and veal, £68,000, and fresh mutton and lamb, £119,000. In the case of sheep and lambs it is estimated that the aggregate consumption in the Free State increased from 504,000 in 1926-27 and 1929-30 to 1,080,000 in 1933. In the case of pigs, consumption on farms is officially recorded as having increased to 163,000 in 1932-33 from 126,000 in the two earlier years. It had also to be kept in mind that substantial imports of pig products were still coming in during the two earlier periods, whereas these have now been cut off entirely. The consumption of pig products declined considerably in 1933 in the home market, in consequence of the attractive prices of beef and mutton. A substantial increase in the consumption at home of poultry and eggs is also allowed for. It is worthy of note that this brings our national consumption of eggs up to 330 *per caput* (from 296 in 1929-30). Mr. Feavearyear, in a recent article in the *ECONOMIC JOURNAL*, estimated British consumption of eggs at 150 *per caput* in 1932.

The value of milk products, as shown, is, of course, influenced by the operation of the policy which maintains a high fixed price for creamery butter in the home market, and recoups the exporter of creamery butter to the extent of the difference between a similar high fixed price and the price actually realised in the export market. According to the Trade Statistics creamery butter exported returned barely 60s. *per cwt.* to exporters, while according to the official return of agricultural prices the average price of creamery butter in 1933, about half of which was exported, was 104s. 10d. for at creameries. The £2,215,000 shown as the value of milk and milk products sold in the export market includes a sum of about £800,000, which was derived about half from the levy on native consumers of Irish butter, and half from the general tax-payer. The export value of other products, as shown, has also been exaggerated by reason of the bounties paid to exporters, which must have cost the tax-payer at least £1,000,000 in 1933, in addition to the cost of the butter subsidy. In estimating the money receipts of farmers in respect of milk sold to creameries, skim milk being returned, the officially published figure of 4 *ld.* *per gallon* for 1933 was adopted. The figure for milk and milk

products (£3,560,000) shown in the third column of Table I includes an estimate of £135,000 as the value of cheese made and sold in the home market This is a new industry

The purchasing-power derived from wheat (£377,000) includes a subsidy estimated at £110,000 paid by the State direct to wheat-growers The season suited wheat admirably, and the total yield from the 50,000 acres sown was 53,000 tons A bounty at the rate of 7s per barrel of 20 stone was paid in respect of "mailable" wheat sold during the Wheat Sale season ended on 15th December, 1933

The only other item in Table II that calls for comment is tobacco There was no excise duty on native-grown tobacco in 1933, and farmers were invited and encouraged to grow it Not

TABLE II

Showing Money Receipts of Irish Free State Farmers from Sales of Crops in (1) the Home Market, (2) the Export Market

		1926-1927	1929-1930	1933
Potatoes	(1)	£491,000	£400,000	£300,000
	(2)	119,000	27,000	21,000
Oats	(1)	644,000	560,000	500,000
	(2)	315,000	185,000	10,000
Barley	(1)	263,000	176,000	205,000
	(2)	639,000	338,000	3,500
Sugar beet	(1)	259,000	360,000	467,000
Hay	(1)	309,000	331,000	208,000
	(2)	7,000	16,000	nil
Wheat	(1)	141,000	111,000	377,000
	(2)	1,000	nil	nil
Tobacco	(1)	nil	nil	187,500
Cabbage	(1)	176,000	200,000	200,000
Fruit	(1)	180,000	177,000	250,000
	(2)	20,000	23,000	nil
Turf	(1)	344,000	100,000	300,000
Total Crops		3,938,000	3,004,000	3,029,000
Sales in	(1)	2,807,000	2,415,000	2,994,500
"	(2)	1,131,000	589,000	34,500

realising the possibilities of the situation, only 300 or 400 farmers rose to the occasion They grew 750 acres of tobacco, had a yield of 600,000 lbs, and at 6s 3d per lb, netted £187,500 As the cost of seeds and fertilisers was about £14 10s per acre, there is reason to believe that our farmers were quite content with their gross return of nearly £300 an acre, most of which went into their own pockets as "profits of enterprise" It is unfortunate that the experiment was made on so limited a scale If everyone of our half-million farmers had planted an acre of tobacco it would certainly not have ended up in smoke—in view of the fact that the

total consumption of tobacco in the Irish Free State does not exceed 10 million lbs per annum. An excise duty of 5s 6d per lb has been levied on home-grown tobacco for 1934. The customs duty on imported unmanufactured tobacco in 1933 was about 10s per lb, varying with the moisture content. The loss to the revenue in respect of 600,000 lbs of home-grown tobacco was thus £300,000. And yet our farmers only received £187,500 for their efforts in propagating the "obnoxious weed."

TABLE III

Showing aggregate Money Receipts of Irish Free State Farmers from Sales of Live-stock, Live-stock Products, and Crops in (1) the Home Market, (2) the Export Market

	1926-1927	1929-1930	1933
Sales of Live stock and Live stock Products	£37,080,000	£42,377,000	£23,680,000
Sales of Crops and Turf	3,938,000	3,004,000	3,029,000
Total	41,018,000	45,381,000	26,709,000
Sales in (1)	12,576,000	13,193,000	12,354,500
" (2)	28,442,000	32,188,000	14,354,500

In order to arrive at the money incomes of farmers, as distinct from their money receipts, it would be necessary to take into account the value of animal feed, fertilisers and seeds purchased by our farmers as a body in 1933, and to make allowance for necessary overhead charges, *e.g.* land annuities, rents and rates, and purchases of farm tools and machinery. Raw material expenses amounted to £8,500,000 in 1926-27, and overhead charges also came to £8,500,000. If these monetary outgoings were the same in 1933 as they were in 1926-27, our farmers would have had barely £10,000,000 to spend on non-agricultural goods and services. They have diminished, perhaps by as much as £5,000,000, so our 700,000 persons who derive their living from agricultural occupations had in 1933 about £15,000,000 to spend on non-agricultural goods and services. Even if they had had £20,000,000, it could hardly be called agricultural prosperity.¹

JOSEPH JOHNSTON

Trinity College, Dublin

REVIEWS

Essais sur quelques Problèmes Économiques et Monétaires By
CHARLES RIST (Paris Recueil Sirey 1933 Pp 501
70 fr)

WHEN philosophers are kings the drawback is that they have no time to write books. When, with something less than royal status, they are called in as experts, they may still be prevented from settling down to a systematic and comprehensive treatise, but there is the compensation that they may produce, as a by-product of their official activities, very valuable reports and memoranda.

Since the end of the War no economist has been more sought after as an expert in practical affairs than Professor Rist, and the present volume is mainly (though not exclusively) composed of what he has written from time to time in that capacity. In his preface he describes the component essays (with some exceptions) as *des diagnostics économiques*.

The essays cover a wide field. The first Part contains seven on monetary problems. Two theoretical studies follow. Then half a dozen of a statistical character form Part III. And finally, three on economic policy (two of which relate to the Reparations question) conclude the volume.

They have been written at widely different dates, extending from 1904 to 1932. Most of them have been previously published, though many have not hitherto been readily accessible, especially to other than French readers.

A systematic survey of so much material would not be possible in a review. Of the earlier essays it must suffice to say that they are good examples of Professor Rist's characteristically acute and sensible reasoning.

When we come to the post-war period, we find him writing in 1919 and again in 1922 on the subject of Reparations with a moderation and judgment wisely detached from the shortsighted controversies and political passions of the time.

But the interest of contemporary economists will undoubtedly be concentrated upon the more recent articles, particularly those dealing with the questions of gold, the price level and the depression.

In his preface M Rist lays special stress on the importance of fluctuations in the price level "In the course of the last twenty years, when price levels have been subjected to the arbitrary discretion of governments, the most diverse economic phenomena have been directly governed by the extent of inflation or the more or less fortunate choice of rate for the stabilisation of currency units"

Both England and Italy have suffered from the rates selected being too high "The present crisis with all its reactions, financial and social, national and international, is in great part the sequel of the ill-starred effort to maintain, from 1927 onwards, too high a world price level" (p xiii)

"In my view," says M Rist, in a paper submitted to the Bank for International Settlements in May 1932, "the price level of 1929, far from having been normal, was accidental and artificial It was the resultant not of any world economic equilibrium, but of a purely local development of prices in the United States since 1922 The idea of seeking in it a norm for the level to which the world price index ought to be adjusted in the coming years appears to me, therefore, to be chimerical" (pp. 153-4)

When from 1925 onwards a number of countries returned to the gold standard, a fall of prices, analogous to that which occurred after 1873, became due (pp 155-7) In 1927 prices were falling, and, according to M Rist's interpretation of the situation, would have continued falling but for the expansion of credit that took place at that time in the United States (p 160) The effect was to postpone the crisis, but not for long, because the rise of prices on the Stock Exchange, which followed, attracted short-term credit to New York, and the outflow of gold gave place after 1928 to an inflow

If the essential factor was the relation of the supply of monetary gold to the new demand arising from the restoration of the gold standard, it is rather surprising that M Rist omits all reference in this connection to the action taken by his own country In an earlier paper (January 1928) he explains the operation of the Law of 7th August, 1926, which enabled the Bank of France to buy foreign exchange The acquisition of foreign exchange served just as well as the acquisition of gold to form a backing for the currency, but the system, he contends, was artificial and could not be permanent, because it did not reproduce the automatic corrections applied to the foreign exchange position by actual movements of gold A centre to which the exchanges are

favourable experiences ease when its central bank accumulates foreign exchange, just as if it were receiving gold, but that to which the exchanges are unfavourable, if it loses no gold, suffers no stringency. The corrective through the credit system works only one way (pp. 100-1).

The argument has become familiar in recent years in attacks upon the gold exchange standard. But in reality it amounts to no more than this, that the use of reserves of foreign exchange does economise gold. That is its purpose. And up to the end of 1928 gold had been successfully economised. It had been economised in many countries, but especially in France, where the Bank of France held foreign exchange to the amount of 32 milliards. The widespread use of reserves of foreign exchange played an even more important part than the expansion of credit in the United States in postponing the scarcity of gold which was threatening a renewed fall of prices.

It was the Bank of France that brought that state of equilibrium to an end, by selling off some seven milliards of foreign exchange in the early months of 1929 and acquiring gold instead. In 1929 the United States did import gold. But the net amount absorbed in the year was only £30,000,000, in comparison with £100,000,000 lost in 1927-8. France, on the other hand, having taken £60,000,000 in 1927-8, took £76,000,000 more in 1929, and by May 1931, when the Creditanstalt crisis broke out, had added a further £110,000,000. M. Rist's argument is that the "ill-starred effort to maintain, from 1927 onwards, too high a world price level" was bound to fail, because there was not enough gold to go round. Clearly the adequacy of the stock of gold to support the price level depended on *how much* gold each country needed to maintain the appropriate supply of currency, and that in turn was determined by the law and practice by which its monetary system was governed.

Nowhere does M. Rist recognise the responsibility of any country for the influence of its monetary institutions upon the world value of gold. If a new demand for £250,000,000 of gold springs up in one country, it is nobody's business to consider whether that can be avoided, or, if it cannot, whether the monetary policy of the rest of the world could be so adapted as to prevent the new demand from causing a fall of prices and a depression.

The Gold Delegation of the League of Nations proposed that the statutory gold proportions of central banks should not exceed 25 per cent. His comment is that the central banks "follow a

policy in regard to reserves entirely independent of the figure prescribed by law" (p 133) "Is it supposed that those banks will modify their policy simply because the figure 25 or 30 per cent has been substituted for that of 35 or 40 per cent at present inscribed in their statutes?"

Apparently the assumed reluctance of the central banks to make any change in their practice is to be taken as an unalterable fact

M Rist would regard himself as a friend and champion of the gold standard But if his view is right, and if all devices for economising gold, or for avoiding fluctuations in the purchasing power of gold, are impracticable, then the only possible conclusion is that the gold standard is unworkable It is bound to break down in the future as it has in the recent past

M Rist would seem only to have become aware in 1931 that the price level of 1928 was artificial and precarious He did, it is true, accept the view, put forward by certain economists and gold experts, that the new output of gold was likely in a few years to become inadequate to support the price level then prevailing But that is quite different from an *existing* inadequacy of gold

In a paper of 1929, in which he recommended the stabilisation of the Spanish peseta in terms of gold at a rate close to the then market rate of 34 pesetas to the pound, he suggested that the rate chosen should be a little higher, $34\frac{1}{2}$ or 35 pesetas, to allow for the threatened fall of the world price level (pp 64-5) Surely he would have suggested a more considerable margin if he had already formed the opinion that the existing stock of gold in the world was so seriously inadequate as to threaten an immediate collapse of prices

R G HAWTREY

Die Wirtschaftstheorie der Gegenwart Edited by H MAYER, F A FETTER, and R REISCH Vol I, 1927, pp 292, 18 RM paper covers, 19 50 RM bound Vol II, 1932, pp 413, 39 RM paper covers, 40 50 RM bound Vol III, 1928, pp 347, 26 RM paper covers, 27 50 RM bound Vol IV, 1928, pp 382, 32 RM paper covers, 33 50 RM bound (Vienna, Julius Springer)

Festschriften are more commonly auspicious in their conception than fortunate in their execution This memorial to Friedrich von Wieser is a remarkable exception, and the publication of its long-awaited Volume II is an occasion for congratulating

its Editors upon having so satisfactorily completed their ambitious task of presenting a conspectus of the most characteristic and important developments in modern economics. Volume I was published in 1927 and Volumes III and IV in the following year, but, for various reasons, Volume II—in many respects the most interesting of them all—could not be published until nearly five years after the date originally proposed. The set, now complete, comprises some eighty essays, written by eminent representatives of most present-day schools of thought and dealing with most of the important problems in modern economic theory.

To distil the essence of such a *magnum opus* is an undertaking that might daunt the most constringent, whatever the space at his disposal. Like the Bible, encyclopædias are notoriously difficult to review, and *Die Wirtschaftstheorie der Gegenwart* is more, as well as less, than an encyclopædia. It is a sort of ecumenical symposium, a majority report of an academic League of Nations. Unless he is prepared to attempt a somewhat breathless and synoptic running commentary, the reporter at such a feast of ideas has no choice but to exercise the critic's ancient prerogative of irresponsible and arbitrary sampling.

Volume I contains a series of surveys of the state of economic science in most European countries, in America, and in India. These are of very unequal utility, ranging from mere *catalogues raisonnés* to such masterly studies in the history of theory as those of Professor Schumpeter on Germany and Professor Fetter on America. Volume IV consists of essays on Fluctuations (Lederer, Snyder, Lescure), International Trade (Schuller, Furlan, Gruntzel, Viner, Cabiati), Public Finance (Gerloff, Eheberg, Strigl, Seligman, Allix, Einaudi, Fanno, Lindahl), and Socialism (Oppenheimer, Laskine, Labriola, Ivantzoff), and an Appendix (Cannan) to which we shall return later.

The bulk of the contributions to pure theory contained in this work are therefore in Volumes II and III. Of these, Volume III covers Distribution, and has in its section on Interest an article on "Bohm-Bawerks Dritter Grund" which was the last thing Wicksell wrote before his death. The volume also contains much other material of value, notably Pigou on net products, Oswalt, Carver, Supino, and Birck on interest, Weiss and Ely on rent, MacGregor and del Vecchio on profits, Commons on Anglo-American law and economics, and Bonar on the limits of State intervention.

These three volumes raised expectations concerning Volume II that may conceivably have contributed to the delay in its appear-

ance, but which now prove to have been well-grounded, despite the fact that the subjects of Value, Production, and Money are extremely difficult and delicate subjects for a present-day writer to deal with

Considerably more than half of this volume is devoted to the theory of Value and Prices—eleven articles in all. Some of these comprise restatements of fundamentals. Thus Professor Oskar Engländer is chiefly concerned to remove some of the real and apparent inconsistencies of older Austrian theory by revising its terminology. Parts of his essay—his ingenious exposition of the psychological foundations of value theory, for instance—are extremely stimulating and illuminating, even when not altogether convincing. Other parts of it—*e.g.* the argument based on the distinction between *echte* and *unechte Kosten*—seem somewhat retrogressive. And Professor Engländer's definitions, such as that of Supply, are not always quite as definite as the occasion requires. Professor Roche-Agussol supplements this essay with a brief paper on some of the more interesting subjective aspects of marginalism, and appends a bibliography that will have its uses for readers who wish to escape the encumbrance of wealth offered under the heading *Grenznutzen* in the *Handwörterbuch*, but it is a pity, and rather strange, that Wicksell is not in it. Professor F. H. Knight, in his article on "The Problem of Value in Economic Theory," carries through to something nearer than logical extreme the views more fragmentarily expounded in certain chapters of his *Risk, Uncertainty, and Profit* and more summarily in the preface to the new impression of that work. All that Professor Knight writes is always stimulating, none the less for its sometimes appearing to be a cross-section of a flowing stream of thought rather than a selection of ideas from a consolidated stock. In particular, his views on the relationship of economics to ethics and politics and psychology are such as to exercise the judgment briefly rather than to inform it tediously, he suggests questions rather than answers. It certainly seems probable that Professor Knight will achieve canonisation as the St. Thomas of academic economics, but academic economics has suffered for nearly a hundred years now from a superfluity of Peters and may well be grateful for a little honest pessimism.

Other general articles in this section are contributed by Professors Scott, Masci, Boninsegni, Bilimović, and Bodin, and two of the remaining three deal with "special" problems in the theory of prices—that of monopoly and that of price-fixing. Professor Liefmann follows a tradition that is just beginning to

evoke articulate dissatisfaction, and treats the theory of monopoly more or less as a supplement to the "general" theory expounded in the preceding essays. The disadvantages of such a way of approach are more obvious than its alternatives, but perhaps sufficient work has already been done on this problem in certain special fields to suggest that progress will be more rapid when more attention is devoted to the concept of the market, and this made the starting-point for an argument rather along the lines of Ricardo, Lardner, and Dupuit than along those of Cournot. To approach the problem of monopoly in this way would at the same time permit a new approach to those very subtle problems dealt with by Professor Vleugels in his essay on *Gebundene Preisbildung*.

The final essay of this section is a very remarkable and original piece of work which fills a quarter of the volume and is undoubtedly one of the most important of all recent *dogmengeschichtlichen* and methodological studies in economics. This essay of Professor Mayer's, entitled "Der Erkenntniswert der funktionellen Preistheorien," is supposed to be a "critical and positive study in the problem of prices", but while it is true that he casts five theories of price-determination as the heroes—or villains—of his story, the plot, and the moral, are in terms of pure methodology.

Professor Mayer begins with a quotation which appears to have become the standard opening for studies of this kind, and proceeds to argue that present-day economists are unable to echo J. S. Mill's satisfaction with the state of the theory of value, not because of any shortcomings either in its philosophical implications (such as they are) or in its logical self-consistency, but because of the extremely restricted range of its contact with experience. Modern theories of prices, says Professor Mayer, may be divided into the *genetisch-kausalen* and the *funktionellen*, the former represented by Gossen, Jevons, and (in part) Walras, the latter by Pareto and Cassel. In order to demonstrate that the refined functional theories of modern writers have achieved all that can be achieved by their type of argument, Professor Mayer then proceeds to criticise five typical theories in turn—that of Cournot as a pioneer who stands nearer to the younger school than to the school which immediately followed him, those of Jevons and Walras, characterised by an attempt to find a causal foundation for their functional analysis, and the strictly a-causal equilibrium theories of Pareto and Cassel.

The general moral which Professor Mayer draws from these

separate criticisms, reserving more detailed conclusions for later publication, is that pure equilibrium theories are necessarily subject to very narrow limitations because they present systems of abstract truths or analytical judgments which contain no synthetical propositions or general empirical laws. Jevons, Walras, and even (despite his own protestations) Pareto, attempted to make good this deficiency by means of a "psychologisch-kausale" foundation of utility functions and indifference curves, but abandoned this approach in favour of another which seemed to lead more directly to their goal, but which in fact led them to the entirely different goal of Cournot and Cassel. The concept of demand was transformed into that of *effective* demand, and, being thus reduced to the status of a function of the other quantities in the system, entirely robbed of all significance as a motive force.

So far, perhaps and even in claiming that the younger generation of economists is growing more and more conscious of the narrowness and inadequacy and sterility of static equilibrium theory, Professor Mayer is not likely to arouse irreconcilable opposition. But it is not so certain that this insistence on demand as *the* dynamic factor *κατ' ἐξοχήν* will command universal assent. Whatever truth there may be in his contention that modern price-theory has been "entdynamisiert" by its neutral attitude towards demand, and in his assumption that there is little significance in any price-theory that is not also a value-theory in the deeper sense, it is surely a mistake to neglect the institutional "framework" and instrumental "material" of the value system, which have just as good a claim as the psychological "motive" to be regarded as suitable empirical data for the transformation of Leibnizian *vérités éternelles* into *vérités de fait*. But it is possible to fail to be convinced by Professor Mayer on this point (a point, after all, on which he has explicitly postponed any possible discussion) without failing to profit by the masterly critical analyses which constitute the principal achievement, if not the avowed object, of his essay.

Four essays in Volume II are devoted to problems of production, possibly the branch of theory beyond all others in which the peculiarities of the modern point of view are most clearly revealed—it is difficult to imagine any greater doctrinal contrast than that between the first few chapters in Mill, or even Marshall's Book IV, and Professor Mayer's article in the *Handwörterbuch*, or the essays under review. "Es empfiehlt sich," writes Professor Wilbrandt,

“die Begriffsbildung nicht lediglich auf die ‘Marktgesellschaft’ einzustellen (etwa Produktion im Wortsinne von ‘zu Märkte führen’) Denn eine allgemeine Lehre von der Produktion darf, um praktisch brauchbare Grundlage zu sein, nicht nur auf eine einzige Wirtschaftsform zugeschnitten werden, sie muss für alle Wirtschaftsformen gelten,”

and although some of his readers may not like his attempt to secure this catholicity by grouping economic systems into “Allein-”, “Tausch-”, “Gemein-”, and “Hingabe-wirtschaften”, nor agree entirely with his view of the purposes of a theory of production or of the meaning of “rationality” in economics, the uses he makes of his general conception of production as the arrangement of objective elements according to subjective criteria are both convincing and suggestive. Professor Diehl, in his essay on the doctrine of productivity, also stresses the subjective aspects of both qualities and quantities in production, it therefore is all the more remarkable that, even in this context, the need for assigning a more definite meaning than usual to the concepts *wealth*, *goods*, and the like does not seem to have been felt. Professor J. M. Clark returns to the spirit of some of his earlier work in discussing Production as Organisation of Utilities and Costs, and Professor Loria, in an essay on what he calls “das ubernormale Unterprodukt”, classifies and analyses the cases in which individuals have a personal interest in the restriction of production.

The final section of this volume deals with money and credit—Professor Mises in an exemplary discussion of the strangely unsettled question of the nature of money (but perhaps still leaving some of his readers a little doubtful on the one point of whether the difficulty of regarding money as a consumption good, and the consequent necessity for some such terminology as that of Knies, does not primarily arise from a slight but effective inconsistency in the usual definition, or indefiniteness, of the word *good*), Professor Reisch on the fundamental principles of the currency and banking system, Professor Kemmerer in an appropriately scholarly interpretation of the Quantity Theory, Professor Gregory in a relentless holocaust of false conceptions both crude and subtle concerning the balance of trade, Professor Aftalion in a “confirmation” of Wieser’s Income Theory (which readers will wish to compare with criticisms by, say, Professor Mises before judging its conclusions), and Professor Bresciani-Turroni on Shortage of Capital and Currency Stabilisation. This

is a section which (apart from such technical considerations as the supply of rival factors or such market considerations as the supply of rival commodities) might well have been considerably increased in size

It is significant that several of the contributors to this work should have been asked to write on methodology, and that this topic should have proved a King Charles's head to several others, for the position and tendency of present-day economic science are much more important even than its content, at least to those who share the dissatisfaction expressed by Professor Cannan in his Appendix to Volume IV. One of the most interesting of all current methodological issues, however, is not explicitly discussed in any of these essays, but raised implicitly by their mere collective existence. If the intention of the Editors in planning this work was really to enable the advanced and specialist student to discover what is being done in fields that are not ordinarily accessible to him, there is much to be said for a less systematic division of subjects. Controversialists might have been asked to give the essence of their views on disputed questions without undue regard to their symmetrical and exact delimitation. On the other hand, if the aim of the Editors was to produce a compendious statement of the assured achievements of the science, there is everything to be said for a much more symmetrical arrangement than that adopted—for having a contribution from a representative of each major school on each of a dozen or so major topics, for example, and for excluding essays on subjects of a narrowly specialised nature. It actually appears as if the Editors have effected some sort of compromise between these two ideals, a compromise whose chief danger lies in its implied suggestion of the existence somewhere of a single repository of economic truth, of a treasury of positive mutually-consistent *Sätzen*, buried in a field where one labourer's gain is another's loss—an ultra-Mercantilist conception of the nature of science and its instruments which economics, above all, should have long outgrown.

Professor Cannan seems to take the view that much of the present disagreement between economists and their consequent ineffectiveness springs from mutual misunderstanding rather than from any more deep-seated antagonism. Like Hobbes, he ascribes the first cause of their absurd conclusions (at least as far as English economists are concerned) to an abuse of words. "Economists", says Professor Cannan, "ought to take far more trouble to find out and explain what is actually meant in ordinary

speech by the words that have become technical terms in the literature of economics "

But there are good reasons for supposing that the trouble goes even deeper than this Professor Cannan assumes that economists are at least able to understand their own doctrines and that the meanings of the terms they employ are at least quite clear to themselves And yet if a list of the seven deadly sins of economists were made, it is reasonably certain that the deadliest among them would still be "that they begin not their ratiocination from definitions " And this is most true of some of the most important terms in the science, in fact, of nearly all of the typical chapter-heading terms with the single exception of *Value*

One thing is still more certain that however desirable or undesirable genuine conflicts of doctrine may be, nothing could do more to remove barren misunderstandings than such a work as *Die Wirtschaftstheorie der Gegenwart* Although there naturally are some particulars in which it might have been done better, no such work on such a scale has ever actually been done half so well It is a memorial worthy of the great man in whose honour it was planned and written

H E BATSON

London

" *Plan or no Plan* " By BARBARA WOOTTON (London Victor Gollancz, Ltd 1934 Price 5s)

THIS book might well have been called the " Intelligent Socialist's Guide to Economics " Its appeal is to the intelligence rather than the emotions As the author herself explains (p 104), " the main concern of this book is with economic *mechanisms*, and a study of the efficiency of alternative economic systems is therefore more relevant to its purpose than would be any attempt to assay the moral quality of the results delivered by those mechanisms " And its appeal is particularly directed to the intelligence of those persons who have assumed that the contemporary unemployment crisis is a breakdown of capitalism as such

In her presentation of modern economic thinking for this particular audience—and it is a large one—Mrs Wootton is quite brilliant Her insistence on the quantitative nature of economic notions as against the black or white, all or none, principles of political controversy, her belief in economic man, her exposé of the necessity of interest, and her exposure of the view that income from profits is never consumed are all wittily and pithily

put and enable Socialists to purge themselves of their platform manners, their Marxian, Hobsonian, or Douglasite predilections, and their instincts-in-industry obsessions. Her first chapter on the "Nature of an Unplanned Economy" is a most discriminating analysis of the forces at work within the capitalist network of unco-ordinated planlets, while her second chapter on the "Nature of the Russian Planned Economy" must rank as the Soviet experiment's first subjection to purely economic reasoning.

If anything, Mrs Wootton is perhaps too rigorously orthodox in her reasoning. She adopts the "scarce means to alternative ends" definition of economics and is thus unduly exercised with the inability of an economic system "to make any use at all of a large proportion of its existing resources, human and material" (p 115). The central (third and fourth) chapters on the "Achievements and Possibilities of an Unplanned Economy" and the "Achievements and Possibilities of a Planned Economy" are both concerned almost entirely with the unemployment crisis. Both the explanation of how the unplanned economy produces this breakdown and the estimate of how far the planned economy might avoid it are brilliantly done with a fine sense of proportion and balance, but it is only part of the picture. What industrial economists and technologists look for as the most important effect of planning, namely, the creation of more efficient resources and the general reduction of costs by changes in productive and distributive structure, is, strangely enough, omitted. If consumption is planned and products standardised to the exclusion of individual fads, the way may be opened for mass production and mechanisation that will permit an economy of human effort and a standard of living hitherto unknown. Mrs Wootton mentions competition as responsible for temporary over-production in the amounts of a given product, but she neglects its effect in the continual over-production of varieties and sorts of product and the consequent failure to achieve the low cost and low prices of large-scale operation.

This neglect is, certainly, consistent with her view of planning expounded in the fifth chapter. The first step in planning is regarded as simply a deviation from the *status quo*. "The planners would have to take the community as they found it, and their first plans would inevitably provide for a society whose economic needs were determined by the income-grading and social structure already familiar to us". The central part of their first plans would consist simply in supplying by deliberate plan about the same quantities of these things as had been

previously produced by individual response to the readings of the price mechanism" Mrs Wootton thus conceives planning as not changing consumption habits any more radically than the structure of industry In her sixth and last chapter on the "Conditions of Successful Economic Planning," Mrs Wootton, quite consistently again, comes out in favour of pricing rather than rationing of goods, and wage-incentives rather than uplift

Occasionally other aims in planning besides that of constant employment of resources peep out, such as to make men "healthy, wealthy and wise," but on the whole both communists and technologists will be disappointed by Mrs Wootton's plan There is to be no forcing people to take what they are offered, no liquidation or *gleichschaltung* of class or individual preferences, even though such planning of consumption might greatly simplify the engineering problem "No given individual is himself obliged to be the someone who buys a particular something" (p 328) This will please the still liberal-minded Socialist and indeed the liberal-minded *anyone*, but Mrs Wootton has certainly not chosen the strongest terrain for her battle The strongest case for planning is technological and ethical, that wealth can be thus cheapest produced, and men thus made most happy and wise even though against their own immediate desires To-day, even in England, we plan education and housing, and force them on people or give them deliberately below cost, and the most ardent planners are those who wish to extend this plan to other fields

All the more glory to Mrs Wootton for a magnificent fight on the difficult ground she has chosen Within this restricted ring she lands her blows right and left, and sometimes necessarily in the air, with telling effect The ethereal proposal of Sir Arthur Salter for a planning by professional bodies is laid low for giving us "a community more planned against than planning" To the left the economic drawbacks of revolution are solidly pushed home "The armies that have been taught to roar like lions, learn with difficulty to coo like doves, and, simultaneously, to work like horses" To the right, the façade of the Fascist Cooperative State is ripped off to disclose the old unplanned Capitalist economy again But the book is not merely a series of well-aimed blows The argument against *no plan*, that it allows sectional interests with centrifugal tendencies to obtain control, is admirably sustained Altogether a most forceful and timely display of the economist's apparatus of thought turned upon a concrete issue

P SARGANT FLORENCE

University of Birmingham

Wages Policy and the Price-Level By K S ISLES (P S King
Pp 256 9s)

THIS book is concerned with a very interesting and important question the possibility of adjusting wage-rates to changes in the price-level, and thus of overcoming by wage policy a part, at any rate, of the unemployment accompanying trade depressions. Wages are indeed one of the least flexible elements in the price structure, and thus, even if it were established that a more adaptable wage policy would do a great deal to mitigate depressions, it would not be easy to carry out the prescription. Yet in spite of this, it is clear that we ought to know whether the prescription itself is a sound one, for if it is, there would be good reason to make a great effort to overcome the practical difficulties.

Mr Isles' conclusion is one which would commend itself to many economists as very sensible and moderate, he holds that in the opening stages of a depression, wage reductions might do something, but not everything, to combat unemployment, as the depression proceeds, however, their prospect becomes less and less favourable, so that in the depths they would almost certainly do more harm than good. The analysis by which he proceeds to this result is often most instructive and illuminating, but unfortunately, at the last lap, everything turns out to depend upon suppositions about the *supply curve of enterprise*. The assumptions made about the shape and behaviour of this curve are quite plausible, but they are no more than assumptions, and so tenuous a conception is surely a most insecure foundation for exact knowledge.

The first part of the book is concerned with the ordinary marginal productivity theory for a single industry under competitive conditions. Here there is naturally little that is very new, though Mr Isles brings out a number of special points very neatly. He is particularly concerned with the short-period marginal product, a concept of whose dangers he is well aware (pp 69-70). A concluding chapter of this section makes an interesting attempt to examine the form of the short-period marginal productivity curve. It is concluded that the curve is inclined negatively, and that it is concave downwards, but this last point depends almost entirely on the assumption that the supply curve of enterprise is concave upwards. "Keeping in mind that enterprise includes risk-bearing, it is reasonable to think that, as the amount of enterprise increases, the marginal disutility of enterprise will become greater—progressively greater." (p 88). It may be so, but the foundation is rather fragile.

Part II proceeds to the problem of "General Equilibrium" by a most ingenious application of Marshall's Foreign Trade Curves. It is assumed, first of all, that wages in each industry are fixed in terms of the product of that industry, the wages in one industry (cotton) are now reduced. The increase in employment in the cotton industry will now mainly depend upon the elasticity of demand for cotton in terms of other things, while the change in employment in other industries will depend primarily on whether this elasticity of demand for cotton is greater or less than unity, so that entrepreneurs in other industries give less or more of their goods in return for the increased quantity of cotton. Subject to a number of qualifications, which need not be detailed here, it thus follows that the total amount of employment in all industries together will be increased if the elasticity of demand for cotton is greater than unity, and also if it is only a little less than unity, but that it will be reduced if the elasticity is much less than unity.

This conclusion is in no way inconsistent with the results reached by other methods of analysis, for the assumption of given product wages in other industries implies that when cotton wages are reduced, there is a slight rise in real wages in these other industries, when real wages are measured against finished products in general. The conventional doctrine would teach that there must be an increase in employment as a result of a fall in real wages, unless the direct effects of the fall are counteracted by indirect effects through a fall in the supply of some other factor of production, or unless there are other indirect counteracting effects through a shift in demand. Mr Isles' analysis brings out very well the possible importance of such a shift in demand, but it appears to be rather less well adapted to elucidate the technical influences which would always be favourable to a rise in employment.

Passing on to the case of a general fall in product wages, Mr Isles holds that the effect on total employment of a general fall is likely to be less than the sum of the total effects on employment of a fall in the various industries taken separately. This result, in the last resort, appears to depend upon his view that the supply curve of enterprise is concave upwards.

In the depths of a depression, Mr Isles continues, the supply-curve of enterprise will probably misbehave so far as to bend back, or, in other words, the demand for real income in terms of enterprise will become inelastic. But the argument here becomes decidedly difficult to follow. For if it is the enterprise demand

for real income which is at the root of the trouble, a reduction in *real* wages would apparently have an adverse effect upon employment—at any rate, if the backward slope was at all considerable. Yet Mr Isles frequently suggests that it is the payment of wages in *money* which is responsible, that a reduction in product wages would have a favourable effect, but that “a lowering of money wage-rates would not be an effective means of bringing it about” (p 158). The argument is disappointingly brief, and, without further elucidation, it seems imperfectly co-ordinated.

The book concludes with two chapters on wage policy in England and Australia, but that on Australia is, in fact, concerned for the most part with banking and the exchanges.

J R HICKS

The Tourist Movement an Economic Study By F W OGILVIE
(London P S King, 1933 Pp xv + 228 12s 6d)

PROFESSOR OGILVIE is right in claiming that “to neglect the study of services is not merely unscientific in theory, it increasingly does injustice to the facts of the modern world.” Engel’s Law that the greater the income the lower the proportion of it spent on food can be extended to other necessities such as clothing and housing, and people without imagination are often left wondering how over-production can be avoided if the proportion of income spent on *everything* is eventually destined to fall. Some publicists rush to the conclusion that over-saving is bound to result as rich men multiply and that capitalism is doomed to die of a surfeit of unconsumed consumers’ goods. The true answer is perhaps the rather obvious one that though consumption of goods and things may not keep pace with income, the widening gap will be closed by the consumption of services. An economic study of the service of entertaining foreigners is thus peculiarly welcome.

The Tourist Movement is certainly the most convenient starting-point for the study of services. To substantiate the balance of payments economists have been forced to consider “invisible” items, and among these, payments by tourists is for most countries second, if not equal, in importance to interest on international investment. Professor Ogilvie might well have stated more clearly the relative importance of his subject actually and potentially in the balance of international payments. Except for a table reproducing the official estimates of the United States, the actual value of the tourist trade, as estimated by the author, is not compared with the other invisible, and the visible items,

and estimates of the possible value that the tourist traffic might attain are not attempted, though well worth speculating upon. The United Kingdom, for instance, in spite of her sentimental attraction as the "Old Country," and her convenience in language for colonials, and for American citizens too, has an unfavourable balance in respect of tourists. Might not a more progressive policy on the part of the British tourist industry have headed off the unfavourable-balance-of-trade argument for tariffs? The lack of enterprise of British hotel-keepers has out-rivalled even that of the coal and cotton entrepreneurs. Year after year Americans shorten their stay in these islands and flee to "Europe" in search of coffee, central heating and bedroom plumbing, while the price of British discomforts remain, as Mr. Colin Clark has shown, completely sticky.

Professor Ogilvie is not concerned with economic possibilities, but statistical solidities. His study is mainly a successful effort to construct out of the fragmentary data vouchsafed by Governments a complete and accurate picture of the tourist profit and loss account. This was not an easy task. The periodical British records, for instance, only give the total number of persons entering or leaving the country, and it requires an analysis of these persons into rich and poor, holiday-makers and commercials, overseas British and foreign visitors, seamen and students, before any computation of their average length of stay and average expenditure per day can be started. Great ingenuity is then shown in inferring length of stay from the figure of foreigners present on Census night, and from the time-lag between inward and outward peaks in the movement of foreigners across the frontier. Expenditure per day has to be estimated mainly from foreign statistics about *their* foreigners. The net conclusion is that in 1929 some 675,000 visitors to the United Kingdom spent a total here of £22,444,500, while some 1,033,000 residents of the United Kingdom spent a total of £32,793,800 abroad. This total expenditure was at its peak in 1929 and fell by a little over five million pounds on both sides of the account by the year 1931. The Tourist Movement in other countries is also reviewed by Professor Ogilvie. For 1929 the United Kingdom's debit balance of ten millions compares with a credit balance of sixty-eight millions for France, thirty-eight millions for Canada, twenty-two millions for Italy and eleven millions for Switzerland. The actual and potential importance to these and other countries of the American tourist may be judged by the United States *debit* balance of one hundred and forty millions.

There is no question of the competence with which Professor Ogilvie has accomplished his difficult task in applied statistics. His technique is clearly set forth and his results admirably tabulated. It is to be hoped that this book will enable European Government statisticians to imitate the American in entering definite estimates of Tourist Traffic in their official accounts of international payments. It should certainly enable economists to substitute figures for one of the unknowns in some of their algebraic equations.

P SARGANT FLORENCE

University of Birmingham

Ideals of a Student By SIR JOSIAH STAMP (Ernest Benn
1933 Pp 240 Price 8s 6d)

AMONGST countless addresses by men of affairs to University students those published, after some rearrangement, in this volume are surely unique. They cover a surprising range of subjects, which are illuminated by innumerable examples appropriate to both the American and English audiences which the author addressed. His brilliance in producing new ideas and purveying old ones, and the humour with which sound advice on study and research is accompanied, render them pleasant and instructive reading for everyone. For the economist they have a special interest, because two of the addresses are specifically concerned with the British economic position and the relations of economics to commerce, and in the others examples are frequently given from economic theories and from the author's own experiences in statistical and economic research.

The addresses as rewritten constitute seven chapters, of which the longest, extending to 35 pages, is on Research. Others are entitled "On Proving All Things," "On Improving All Things," "On the Democratic Hope." Every scientific worker and economist will be interested in the chapter on Research, which deals with the purpose of an investigation, the method appropriate to different problems and categories of facts, on learning from failures, and how and when to write up the results and publish them. The last chapter, "On Intellectual Integrity," is highly suggestive and even challenging, and exhibits everywhere the author's frankness and activity of mind. A very brief summary is prefixed to each chapter—a most convenient device. For instance, that on Intellectual Integrity runs thus: "Complete intellectual consistency is unattainable—the effort to attain it,

while valuable, is only worth while within limits The establishment of reasonable limits to the effort is essential for busy and well-ordered minds "

Perhaps the chapter " On Improving All Things " might itself be improved when a second edition is called for, by reconsideration of a few points On p 158, with reference to the decisions of wages boards and industrial courts, is a statement which implies that the " true marginal productivity of labour " determines wages, for it is stated to be " in the long run an absolutely limiting factor " It is a pity to appear to give currency to the widely prevalent fallacy that the marginal productivity of labour determines wages, by failing to explain that the marginal productivity function is dependent on the efficiency of organisation and equipment, and constitutes the demand, whilst the actual marginal productivity depends on the supply of labour

A few pages further on the author pleads for going to fundamental principles whenever we propose a change But does he do so himself ? The " freedom of choice of the consumer " is to him fundamental in any workable economic system, and he proceeds (p 165) to this surprising conclusion " The freedom of the consumer then upsets the best schemes of thoroughgoing socialism or bureaucratic planning " He does not seem to have the present condition of Soviet Russia in mind, for he proceeds to ask whether there is any implication of Christian principle which calls for the modification and control of consumers' freedom The assumption appears to be that the productive capacity of the nation under socialism would be less than it is now, but most economists and engineers who have given the matter serious thought are agreed that productive capacity would be greatly increased, so that there would be no need for restriction of consumers' choice

Further on (p 167) he argues that a socialist community could make boots and sell them at half their social cost, but could not do this for all things, which is obvious But why should he regard it as a " very unchristian thing to do " to embark on a business enterprise unless receipts exceed expenditure ? A socialist government, if it decided to vary prices from average cost, would make up losses on goods sold below cost for improvement of health or education by profits on luxuries and things supposed to be prejudicial to health The author's conception of a socialist economy seems to be that of the transition, when the money economy and profit incentive would still largely operate It is perhaps unfortunate that a question of such vital importance to the future of civilisation has been dealt with briefly without

adequate explanations in a chapter which falls short of the high standard of the rest of the book

H S JEVONS

International Combines in Modern Industry By ALFRED PLUMMER,
B Litt, M Sc (Econ), LL D (Pitman Pp 191 7s 6d)

POLITICAL boundaries rarely coincide with economic boundaries, and it is therefore to be expected, in the industries where conditions of supply and demand produce combines, that those combines should extend their influence across national frontiers. The question then arises 'does this straddling of frontiers produce problems of policy or systems of administration which distinguish international combines from those which happen to be confined within the limits of a single nation?' Obviously, minor difficulties such as the adjustment of price policy in relation to fluctuations in rates of exchange will arise. But if no greater differences exist, then international combines do not merit any special treatment from the economist. Everything that he says concerning the motives which produce them, the economies they may achieve, their influence upon prices and distribution, the limits which prevent their extension, the circumstances in which they arise or disintegrate will apply as effectively to the international as to the national combine. If, on the other hand, there are economic problems peculiar to international combines, then it is upon them that one would like to see a competent researcher concentrate his attention.

Mr Plummer is well aware that such peculiar problems do exist. The possible conflict between the national policy of any State and the interests of a firm operating within its area of control which happens to be a member of an international combine is perhaps the most important of these problems. Mr Plummer in this connection points out that the expectation of the International Economic Conference of 1927, that international combines might act as an antidote to the evils of protectionism, has not been fulfilled, and he is inclined to hold that these combines do not tend to facilitate the international division of labour. He discusses also the peculiar problems arising from the allocation of quotas of production to national groups. He devotes a couple of pages to the legal difficulties of a combine operating under several different systems of law. He raises the question 'What is the most suitable administrative scheme for an economic organisation with world-wide ramifications?' He touches upon the difficulty of devising any satisfactory form of social control

over such corporations, and advocates that as much publicity as possible should be given to their deeds by the League of Nations. But his book does not contain a full or thorough discussion of any one of these interesting problems.

Yet it would be exceedingly unfair to appraise this book only by what it omits. No doubt Mr. Plummer was limited by the purpose for which his book was intended. He was obliged—as anyone who writes on international combines must be obliged—to describe in some detail all the important cartels and concerns which have operated during recent years on an international scale. He had also at least to indicate the well-known circumstances which influence the formation and the policy or cause the disruption of combinations. All this he seems to me to do very competently indeed. He has produced a very useful and clearly written book in which all the facts concerning international combines have been brought up to date, and in which these combines are related to the environment in which they operate. The book is therefore well suited for the use of students, and will help them to relate facts and theory. I hope that before long Mr. Plummer may perform a labour of love and investigate much more fully the interesting problems upon which he has only touched. The book which resulted might not have a wide sale, but it would be very gratefully received by economists.

H. A. MARQUAND

*University College,
Cardiff*

The Rise and Fall of the Gold Standard By SIR CHARLES MORGAN-WEBB (London George Allen & Unwin, Ltd. 1934 Pp 187 5s)

The Breakdown of Money By CHRISTOPHER HOLLIS (London Sheed and Ward 1934 Pp xxiii + 232)

Promise to Pay By R. McNAIR WILSON (London George Routledge & Sons, Ltd. 1934 Pp 148)

THESE three books, all dealing with the defects of our monetary system, are of very different calibre and value.

Mr. Hollis's thesis is that all our ills are financial in their origin. The prime need of any modern community is purchasing power sufficient to keep pace with its productivity, and this we might easily acquire if it were not for the stranglehold of the Banks, and above all of the Bank of England. In the endeavour to prove his case Mr. Hollis ranges over the habitable globe, the history of England and a variety of diverse topics. The Liberal principle

of "allowing money to find its own level" meant that we equipped competitors and armed our enemies, while impoverishing our own people. But the real enemies of society are the Banks, which invent money "out of nothing" and levy a toll on the community for doing it. Actually society is the creator of all new money, and the Government should never have parted with the privilege, or allowed the Central Banks to usurp a power which they manage very badly. We need never have had a National Debt if, instead of allowing the Banks to invent money and paying them for exercising the privilege, the Government had just issued the money required.

Turning to the future, Mr. Hollis points out how much more important than foreign trade is the domestic market, and how the provision of new purchasing power is all that we need to set the wheels in motion. Like many of his kind he casts longing eyes on the Douglas Scheme, while firmly condemning it. But he holds that we could distribute purchasing power in a less drastic form to persons who could not be demoralised by it to old age pensioners, widows, the blind and the disabled. We should also restore the amounts cut from salaries and unemployment benefit. To the unemployed he would give resources as great or almost as great as to the wage-earner. He is not afraid of the lure of idleness.

The rest of the book is somewhat discursive. A chapter on India suggests that we have always given her more than we have received in return, and that the loss of our Indian trade would be an inconvenience but not an irreparable disaster. Another chapter is devoted to laying the bogey of inflation by showing that there is no parallel between the mark and the pound. The American slump and the Roosevelt policy, and the experiences of Spain under General Primo de Rivera, are drawn in to point one or other of Mr. Hollis's morals, and a chapter on Population warns us that a nation which has lost its faith in the Christian Revelation has lost the mainspring of action and is not likely to survive. Altogether an interesting and suggestive book, even though the reader may not always agree with Mr. Hollis's premises, or see how they lead to his conclusions.

Dr. McNair Wilson too has discovered that the Banks invent money out of nothing, and he sets out to explain the whole position "in a form that may be grasped easily by anyone above the age of sixteen." This he does with an elaborate sarcasm that will certainly appeal to the young. But underlying the sarcasm is an indictment of modern banking practice more savage than any

medieval denunciation of usury Not only are the bankers the villains of the piece, but they and their allies, the international financiers, conduct against an innocent population a nefarious campaign, which can only be likened to the activities of an insatiable monster mercilessly swallowing his victims alive International finance has conquered the world and reduced it to slavery International bankers can create invisible exports or invisible imports by a stroke of the pen, and so effect changes in price levels and depression of wages "A struggle is proceeding to-day between International Finance frantically concerned" to maintain its power, and "the rest of mankind concerned only to produce and consume" There is no doubt of the honest fervour which inspired this book, but it is not equally clear what remedies the writer would have us adopt

Compared with the raging torrent of *Promise to Pay* the argument of Sir Charles Morgan-Webb's *The Rise and Fall of the Gold Standard* resembles a calm and limpid but powerful stream In a dissertation as interesting as any romance, he describes the silver standard that ruled in medieval England, the battle of the standards in the eighteenth century and finally the all-important events of 1816, when the old-established unit-of-account, the pound sterling, now based on the mint price of gold at £3 17s 10½d an ounce, was made the unit of value of a new currency The new standard, which reigned supreme for nearly a century, was not gold, nor a weight of gold, but a value of gold, and its whole strength and importance lay in the obligation imposed on the Bank of England to be both a buyer and a seller of gold in unlimited quantities For while this obligation lasted no other value of gold was possible

The writer points out that this gold standard which worked so well was essentially a "managed currency," which depended for its very existence on a superlative exercise of the art of management But the world at large adopted it as *the* gold standard, believing that its success was due to the innate virtues of the metal In 1872 Germany linked the mark to the pound, France followed suit in 1890 and the United States early in the twentieth century

The sterling standard was swept away in the World War, and the dollar standard took its place But protectionist America, compared with free trade Britain, was quite another kind of creditor who subjected her debtors to a drain of gold Sir Charles finds it incredible that the two systems of currency should ever have been taken for identical, and worse, that the return of

Great Britain to gold in 1925 should have been made under a similar misapprehension

In addition to drastic deflation with its attendant losses, industrial unrest, and other predictable and predicted disasters, Great Britain experienced a disaster which no one had foreseen. The debtor countries which were compelled to pay America in gold, procured this by dumping their goods on the only free market, that of Great Britain, so that for years our magnificent financial organisation served only to place all our available gold at the disposal of the United States, and later of France. In 1931 we gave up the struggle.

The post-war gold standard which had already proved its unfitness for the work required of it, received its *coup de grâce* from the newly-established practice of hoarding. It died because the creditor countries refused to work it, but it left behind a legacy of ruin and starvation. Politically, the restoration of the gold standard is, in the writer's opinion, about as feasible as the reintroduction of the feudal system.

The sequence of events has proved encouraging. Sterling did not, as might have been feared, degenerate into a local currency. On the contrary, the sterling Bill of Exchange proved able to hold its own and more, with Bills based on currencies backed by vast accumulations of gold. The paper pound is slowly but surely gaining the predominance which the old gold pound had so effectually established. The new unit of value is the Index-number, and the only problem left to be solved is the determination of the stabilisation point—a problem which might be solved by British-American co-operation. The writer begs, however, that we should cease to render lip service to gold, and should explain to the world at large that the hope of "ultimate" return to gold, so piously expressed in the Macmillan Report, means, in effect, exactly nothing. Of the Macmillan Report Sir Charles has a great deal to say which does not affect the main thread or the cogency of his argument. This book deserves to be widely read both for the interest of its historical matter and for the compelling logic and sanity of its views. H. REYNARD

The Devaluation of the Pound By J. L. K. GIFFORD (P. S. King 1934 Pp viii + 114 5s.)

The Nationalisation of Banking By AMBER BLANCO WHITE
(Allen and Unwin, and the Fabian Society 1934 1s 6d.)

MR. GIFFORD'S book is a straightforward attack upon exchange depreciation as a method of securing equilibrium in the balance

of payments, and in particular upon the British departure from gold in 1931. He argues firstly that our action intensified the World Depression to such an extent that it would have paid the French and other central banks to lend us enough (he mentions £500 m.) to remain on gold. He suggests, secondly, that our action was in any case largely ineffective in restoring the trade balance owing to the large number of countries which followed our example, or else imposed import quotas and raised their tariffs. Mr Gifford believes that we could and should have deflated, and that if this was impossible on a sufficient scale (as might well have been the case), exchange restrictions would have been preferable to depreciation. But one feels that he has underestimated the social obstacles which to-day stand in the way of any attempt to deflate seriously the British income structure. Moreover, if only in view of the German experience, few would agree with him in preferring exchange restrictions to depreciation, if adequate deflation is found to be impossible. Further, the subsequent failure of the free exchange market to secure complete equilibrium in the foreign balance on income account undoubtedly implies a continued capital import. But it may well be a mistake to argue, as Mr Gifford does, that this failure was itself the cause of the continued import of capital. It is just as, if not more, likely that the causation ran the other way. But the book as a whole is well-written, closely argued, and contains some useful statistics.

Mrs Blanco White is in favour of the immediate nationalisation of the Bank of England on the advent of a Socialist government, but the nationalisation of the joint stock banks only at a later stage. Her argument is marred by a misunderstanding of the meaning of inflation, and by a gross over-estimation (p. 35) of the benefit to production to be obtained from a change of monetary policy. Nor does she explain the nature of the advantage to the community which she hopes may be obtained from the power to distribute credit arbitrarily through the ultimate nationalisation of the joint stock banks.

H. BARGER

University College, London

Future Trading By G. W. HOFFMAN (University of Pennsylvania Press 1932 Pp. ix + 469, with bibliography, charts and tables 21s.)

The Hard Winter Wheat Pools By J. G. KNAPP (University of Chicago Press 1933 Pp. vi + 177 7s.)

It is possible to commend a book without agreeing with it, and to agree with a book without commending it, and so it is

with these two books Professor Hoffman, Professor of Insurance and Consulting Economist to the United States of America Department of Agriculture, writes with academic and expert knowledge, and of a subject on which our own University students are strangely ignorant it is excellent to have a first-hand exposition. Mr Hoffman's book should take the place of Emery's *Stock and Produce Exchanges*, and he improves upon Emery by his admirable historical account of the evolution of the future market in wheat and cotton, for, despite attempts to introduce it elsewhere, wheat and cotton supply over nine-tenths of all the future trading of to-day.

The environment of its growth was the Chicago of 1855-65. The arrival of wheat from the newly-settled country points was uncertain, roads were bad, lake-boats were irregular in departure, abroad there was the disturbing element of the Crimean War, at home the disturbances of the 1857 crisis and later of the Civil War. In such an environment the American business man flourished, and he was above all a speculator—in gold, in real estate, and in raw produce. The forerunner of the future was the "sale to arrive," i.e. selling (now) to arrive (later), but these sales were for many varying qualities and the true future was only possible when the produce had been graded. Thus, future trading is in its essence forward dealing in standardised wholesale produce of a fundamental staple, of wheat the great staple of food, and of cotton the great staple of clothing. The evolution of the cotton future is substantially the same, save that Liverpool, the port of import, led the way, followed by New York and then by New Orleans, the centre of the growing region. One notices the importance of the steamship, and later the cable, in enabling commercial paper and samples of cotton to arrive ahead of the cotton itself. The law is sometimes a procrastinator, but it is noteworthy that in 1838, when regular steamship services began across the Atlantic, the Courts revised their old objection to the time contract. Such contracts were to be valid if there was intention to deliver, however, Mr Hoffman shows that this test is very ambiguous, and prefers himself to justify them by the objective test of usefulness.

He shows further that there are two main parties in the future market, the trader who uses it for speculation, and the hedger who uses it for insurance. Without the latter the system would run riot and be suppressed as a pernicious traffic. Without the former the system could not function. And the fundamental point is made that, although only in rare cases is the subject of

the future contract actually delivered in physical form, yet it is of the essence of the system that it shall be deliverable. Otherwise the cash market and the future market will not move in sympathy, and hedging, the commercial service of the system, will not work.

Here, again, is a sterling statement, "Is not the grain crop or cotton crop sold twenty times over each year? The answer is, No. Contracts or rights to cotton or grains are traded in to an amount thus large, but the crop itself is bought or sold perhaps on an average not more than four or five times involving the various steps in marketing" (p. 111).

Why, then, cannot one agree with this book? Just because it is the Chicago of 1855-65 perpetuated, and society will not stand this. The revolt does not come from the consumers, to whom the system supplied commodities in a continuous even flow with an excellence which no other markets can show. The revolt comes from the producing farmer and the social psychology of a producing nation. The farmer cannot protect himself by hedging, for the essence of hedging is that the middleman, elevator or exporter, shall sell a future when he buys the actual wheat and close the future when he sells it. The farmer owns the crop from the outset. He could, of course, when he sells it, buy a future, but this is no hedge, it is a straight speculation. Similarly, from the essence of the case, it is impossible for a real farmers' pool to hedge, because it too from the outset owns the crop on behalf of its members. If it sold the crop ahead of arrival, it would simply make one great speculative sale. It is quite extraordinary how many students in England believe that the futures market helps the farmer by enabling him to sell his crop while it is yet growing, and thus to be sure of a decent price. In apple marketing, selling your fruit while it is still on the tree is always the mark of a lazy farmer.

The reviewer would like to be able to turn to a book as able in exposition on the other side. Professor Knapp's book does not fill this gap. It is doubtful if any single economist could fill it, and for these reasons.

First, the goal is uncertain. The alternative system—call it merchandising or pooling—has nowhere been a uniform success and yet has nowhere been abandoned in favour of a return to the old system. Rather, the trend is towards a system of state marketing, to which perhaps the pooling method in retrospect will prove to have been a half-way house.

Secondly, in America, where the academic ability is certainly

present to achieve the task, the environment is unsuitable. The cotton South is dominated by the needy condition and social inferiority of the growers. The wheat-growing districts are numerous and different. Mr Knapp gives us the hard winter wheat pools. In addition, there is the Pacific belt and the spring wheat belt, therefore the story is confused, and the confusion becomes almost chaos for the outside reader, who is not alive to the undercurrents of hostility between the rival organisations of farmers. Then comes along the Federal Government and creates from above a phantom federation, the Farmers' National Grain Corporation, before this has achieved anything the crash arrives, and the Government is left with the task of supporting the market and bearing the loss. Mr Knapp might have told his story more succinctly. He is an enthusiast for co-operation, but does not unify either his story or his analysis. Mr Harald Patton, in his *Grain Growers' Co-operation in Western Canada*, unifies the story, but even he does not face the crucial theoretical points. For example, what would happen if the Pool had got 75 per cent of the crop? Could the Grain Exchange have functioned? If Winnipeg had gone out of business, how would Canada have accommodated herself to the residual speculative market in England? For England certainly would not have agreed to accept Canada's method of merchandising her crop to the exclusion of other methods.

Thirdly, and finally, agricultural marketing has now become not merely a study in agricultural economics, but also almost the test case in the secular problem of the individual and the State. It is hardly possible to describe the agricultural marketing schemes of England without being involved in cartel analysis. It is a problem not only of the individual and the State, but of the producer and the consumer, and the reconciliation of the two, rather than of capital and labour, may well prove to be the ultimate problem of economic society. In either case the economist will need the help of political science.

C. R. FAY

Juvenile Unemployment By JOHN JEWKES and ALLAN WINTER-BOTTOM (London George Allen and Unwin, Ltd 1933 Pp 159 Price 5s net)

THE authors remark on the difficulty which at present confronts the investigator of juvenile unemployment, in the defectiveness of official statistics. Even the numbers unemployed cannot be certainly known, though the new Unemployment Insurance

the future contract actually delivered in physical form, yet it is of the essence of the system that it shall be deliverable. Otherwise the cash market and the future market will not move in sympathy, and hedging, the commercial service of the system, will not work.

Here, again, is a sterling statement, "Is not the grain crop or cotton crop sold twenty times over each year? The answer is, No. Contracts or rights to cotton or grains are traded in to an amount this large, but the crop itself is bought or sold perhaps on an average not more than four or five times involving the various steps in marketing" (p. 111).

Why, then, cannot one agree with this book? Just because it is the Chicago of 1855-65 perpetuated, and society will not stand this. The revolt does not come from the consumers, to whom the system supplied commodities in a continuous even flow with an excellence which no other markets can show. The revolt comes from the producing farmer and the social psychology of a producing nation. The farmer cannot protect himself by hedging, for the essence of hedging is that the middleman, elevator or exporter, shall sell a future when he buys the actual wheat and close the future when he sells it. The farmer owns the crop from the outset. He could, of course, when he sells it, buy a future, but this is no hedge, it is a straight speculation. Similarly, from the essence of the case, it is impossible for a real farmers' pool to hedge, because it too from the outset owns the crop on behalf of its members. If it sold the crop ahead of arrival, it would simply make one great speculative sale. It is quite extraordinary how many students in England believe that the futures market helps the farmer by enabling him to sell his crop while it is yet growing, and thus to be sure of a decent price. In apple marketing, selling your fruit while it is still on the tree is always the mark of a lazy farmer.

The reviewer would like to be able to turn to a book as able in exposition on the other side. Professor Knapp's book does not fill this gap. It is doubtful if any single economist could fill it, and for these reasons.

First, the goal is uncertain. The alternative system—call it merchandising or pooling—has nowhere been a uniform success and yet has nowhere been abandoned in favour of a return to the old system. Rather, the trend is towards a system of state marketing, to which perhaps the pooling method in retrospect will prove to have been a half-way house.

Secondly, in America, where the academic ability is certainly

present to achieve the task, the environment is unsuitable. The cotton South is dominated by the needy condition and social inferiority of the growers. The wheat-growing districts are numerous and different. Mr Knapp gives us the hard winter wheat pools. In addition, there is the Pacific belt and the spring wheat belt, therefore the story is confused, and the confusion becomes almost chaos for the outside reader, who is not alive to the undercurrents of hostility between the rival organisations of farmers. Then comes along the Federal Government and creates from above a phantom federation, the Farmers' National Grain Corporation, before this has achieved anything the crash arrives, and the Government is left with the task of supporting the market and bearing the loss. Mr Knapp might have told his story more succinctly. He is an enthusiast for co-operation, but does not unify either his story or his analysis. Mr Harald Patton, in his *Grain Growers' Co-operation in Western Canada*, unifies the story, but even he does not face the crucial theoretical points. For example, what would happen if the Pool had got 75 per cent of the crop? Could the Grain Exchange have functioned? If Winnipeg had gone out of business, how would Canada have accommodated herself to the residual speculative market in England? For England certainly would not have agreed to accept Canada's method of merchandising her crop to the exclusion of other methods.

Thirdly, and finally, agricultural marketing has now become not merely a study in agricultural economics, but also almost the test case in the secular problem of the individual and the State. It is hardly possible to describe the agricultural marketing schemes of England without being involved in cartel analysis. It is a problem not only of the individual and the State, but of the producer and the consumer, and the reconciliation of the two, rather than of capital and labour, may well prove to be the ultimate problem of economic society. In either case the economist will need the help of political science.

C. R. FAY

Juvenile Unemployment By JOHN JEWKES and ALLAN WINTER-BOTTOM (London: George Allen and Unwin, Ltd. 1933. Pp. 159. Price 5s. net.)

THE authors remark on the difficulty which at present confronts the investigator of juvenile unemployment, in the defectiveness of official statistics. Even the numbers unemployed cannot be certainly known, though the new Unemployment Insurance

Bill, by assimilating the entry into insurance with the school-leaving age, should do much to effect improvement in this direction. The authors attempt, in the first place, to make a detailed study of the region of the Lancashire Industrial Survey—Lancashire, exclusive of Merseyside, and Cumberland, but they are also concerned with the general problem, and the latter part of the book is devoted to discussion of existing public policy and possible future action. For “each of the depressed northern industrial areas presents an unemployment problem which has its own peculiar features. But the problem in Lancashire and Cumberland is in kind, if not in degree, indicative of that to be encountered elsewhere.”

This combination in the problem of national extent and special local characteristics makes particularly suitable the method of regional inquiry. A similar study was made a few years back for the single borough of Bermondsey, and it is to be hoped that the like work will be done for other areas, till the whole country is covered, and the full results co-ordinated.

In one sense, the present problem, at least in the depressed areas, is a double one, combining the temporary effects of the world crisis with the more permanent difficulty arising from the overlapping of the problems of “boy employment” and “boy unemployment”—to use the distinction made in the Bermondsey inquiry—and the results which follow from Blind Alley employment. The whole problem will be further complicated for a few years by the great temporary increase in juveniles entering employment as a result of high birth-rate in one or two post-war years, notably 1920. The Lancashire Survey Region is well fitted to illustrate both sides of the problem, since it suffers severely from the depression, and the cotton industry employs far more juvenile labour than it can retain in manhood. A serious feature of the position is the greater difficulty of placing leavers from secondary schools, their percentages of unemployment in the summer of 1932 being 26.1 (boys) and 28.5 (girls), compared with 20.7 and 16.7 respectively for elementary school leavers.

The statistical study of the problem in Lancashire and Cheshire, which is supplemented by a series of additional tables in the Appendix, is followed by a more general study of policy and remedies, subdivided into Palliatives and The Lengthening of School Life. The book concludes with chapters on The Control of Juvenile Employment and on What Lancashire Can Do.

The authors strongly advocate raising the school-leaving age to fifteen, but emphasise that, to make this effective, the educational

reorganisation under the Hadow scheme should be resumed and completed. There is an interesting discussion of different remedies, such as extension and improvement of instruction centres for unemployed juveniles. On this last matter, the information given suggests that, when full allowance is made for need of preventing waste and for the difficulties of administering the Centres, the policy adopted has been defective in flexibility, in range, and in the treatment of the teaching staff. "Many of the instructors are working under week-to-week or even day-to-day contracts." Some suggestive illustrations are also given of the detailed effects of "Economania" upon Lancashire education. The suggestion that, failing general raising of the school-leaving age, Local Authorities in Lancashire should combine to press for sanction to Bye-Laws under the Fisher Act to raise the age throughout their area is interesting in view of a similar movement now taking place in London.

The authors particularly stress the present high unemployment of the older children in Lancashire, where the ordinary effects of high proportions of Blind Alley employment are greatly aggravated by contemporary conditions, whilst there is continuous engagement of younger children fresh from school. The writers specially fear the effects of this upon the rising generation, at a time when improvement in industrial quality is essential to meet Japanese competition. They rightly urge that much of the unemployment could often be met by a proper system of dovetailing of jobs, and this should also prevent any risk of shortage of labour from restrictions on the entry of younger children into the labour market. Possibly the authors do not fully develop the possibilities of dovetailing. The evils of Blind Alley employment are, indeed, obvious, but much of it is also inevitable with the present organisation of industry, and the authors perhaps over-stress its elimination and give too little attention to its regulation and control. The most practicable line of advance may well be found in a further development of dovetailing, whereby the surplus of boy labourers in industries like cotton will be transferred at the right time to men's jobs of various kinds, in occupations which employ a shortage of juveniles. The authors rightly point to the value of the work already done for the guidance of juveniles and demand its extension, and one fruitful opening for this seems likely to be found in further dovetailing of this type.

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Aspects of the Rise of Economic Individualism a Criticism of
Max Weber and his School By H M ROBERTSON, Ph D,
Senior Lecturer in Economics in the University of Cape Town
(Cambridge University Press 1933 Pp xvi + 223
10s 6d)

DR ROBERTSON'S object is to disprove Weber's theory that "Protestantism, especially in its Puritan form, has had a very great influence in forming the 'spirit of capitalism,' and, therefore, in forming capitalism itself," through the doctrine that unremitting industry in one's "calling" was a religious exercise, and that success in one's calling was an "outward and visible sign of the acquisition of spiritual grace" Reference to early Puritan writings shows that the authors preached the beauty of the ordered life, contentment in the position to which God had called one, avoidance of worldly ambition, and the due performance of charitable and other duties It was not till the late seventeenth century that English moral writers began to regard "worldly success of great moment, and of paramount importance in deciding in what esteem a man should be held" Catholic writers are quoted as holding similar doctrines and going through the same development to an alliance of God and Mammon Weber held that there was no "capitalistic spirit" in the Middle Ages and that pre-Reformation capitalism was a poor thing until it was vivified and made respectable by the Puritan creed A searching historical review completely destroys those assertions The spirit of gain is as old as Aristotle, and Weber, instead of searching into origins, drew his ideas of the relations between Protestantism and capitalism from the writers of the late seventeenth and the eighteenth centuries when the old ordered morality had become sophisticated.

The true view set out in this book is that "the great influence which moulded the history of capitalistic endeavour was the escape from medievalism" The abolition of privileges was a feature of the Renaissance period, and Machiavelli taught that the monarch should encourage his citizens to prosper in their employment so that the State should grow powerful There was a growth of individualism and an assertion of the rights of the individual against the State The Calvinist countries of the north of Europe showed, it is true, a greater commercial capacity and zeal than the Catholic countries of the south and middle of the Continent, but "the new course of world trade which sprang up in consequence of the discovery of America and more especially of the Cape passage to the East was a more potent cause of these national inequalities than religious differences" "The

spirit of individualism spread, mainly as an effect of trade developments. The rise of the *spiritus capitalisticus* is largely a matter of opportunity and of competition."

The fourth, fifth, and sixth chapters are occupied by a detailed examination of the views of Protestant and Catholic writers on the relations between their churches and capitalism. Briefly, both at first preached moderation and contentment, and both gradually came to make accommodations with the wealthy who were the source of their incomes. A good deal of evidence is adduced in support of the view that the Jesuits were the first to advance on the road to worldly wisdom. Much has been made of the fact that the industrialists and merchants of the eighteenth century were frequently, if not generally, dissenters, but that is easily explained by the old alliance between the Episcopal Church and the landed aristocracy, the new rich were regarded as upstarts and took refuge in a communion where they were not despised—a development which naturally modified the old ascetic doctrines. Not the least pleasing part of this section of the book is the very effective trouncing of Archdeacon Cunningham for his derivation of Scots success in business from Scots Calvinism.

By his skilful and thorough application of the historical method Dr Robertson has completely destroyed Weber's "psychological" explanation of economic development, and we can heartily concur with Professor Clapham in his preface, that the book "contains the first thorough historical discussion in English, and the best discussion that I know, of a dogma much debated, though sometimes uncritically received." The book contributes to the philosophy of economic history and so is fit to stand at the head of this series"—the new series of "Cambridge Studies in Economic History" published under the general editorship of Dr Clapham with the aid of the fund bequeathed by Ellen Anne McArthur of Girton College, herself an historian of note.

HENRY W MACROSTY

L'économie corporative fasciste en doctrine et en fait Ses origines historiques et son évolution By L ROSENSTOCK-FRANCK
(J Gamber Paris Libraire Universitaire Pp 429)

THIS book is an imposing reply to such favourable accounts of Mussolinian economics as Einzig's *Economic Foundations of Fascism*. Its method is to compare the appearance as revealed in Fascist propaganda, official pronouncements, and laws, with the reality discovered, by study on the spot of the Italian situa-

tion, to underlie and generally to contradict the appearance. The first 240 pages—"L'Ordre Syndical"—review the treatment of labour and trade union problems, the origin of Fascist syndical theory, its incorporation in the legislation of 1926-8, its impact on the workers, the success of the system of collective contracts and compulsory arbitration, unemployment, wages, and general social policy. The remaining 180 pages—"L'Ordre Corporatif"—examine other aspects of State intervention in agriculture, industry and banking, and the channels through which vital economic decisions are made. The composition, working and real influence of the "Corporative" Chamber and the National Council of the Corporations are scrutinised, debates selected for analysis. There is a final mention of some writers who have attempted to theorise, and even to build up a brand-new economic doctrine, round the Corporative State.

With his painstaking and sustained research, M. Rosenstock-Franck has undoubtedly produced the best book on Corporative economics that we have. It is crammed with well-documented facts (which unfortunately lack an index), proving to the author's satisfaction the thesis that all this Fascist nonsense is just an old and rather soiled solution of politico-economic problems, dressed up to look new. "Nous pourrions espérer tirer quelque enseignement pratique de l'expérience italienne, mais, malheureusement—et nous devons marquer ce fait avec force—il n'en est rien. Une fois de plus, tout glisse entre nos doigts et nous avons l'impression d'être mêlés à quelque vaste comédie, il nous faut insister parce que bon nombre d'excellents esprits ont cru, sur la foi de la Charte et des journaux de la Péninsule, que la notion de 'salaire minimum' triomphait en Italie, tout comme la réduction gouvernementale des prix de détail, les consortiums obligatoires, que sais-je encore. C'est tout à fait inexact" (p. 135). "Les régimes de dictature s'ils n'inventent rien de nouveau en matière économique, connaissent néanmoins, et pratiquent toutes les erreurs des régimes démocratiques" (p. 329). Can such unqualified condemnation be any more adequate than Einzig's pean of praise? True, M. Rosenstock-Franck has a good word for one or two aspects of the land and social policy. But he frowns on the public works, criticises Fovel's proposals to equalise incomes on the grounds that saving would fall off, hates the State to control rents, and cannot believe that it ever succeeded in reducing retail prices by decree, thus to accomplish "une sorte d'heureuse violation des lois économiques" (p. 359). Perhaps, if he read the controversies in *Commercio* of 1930-32, and

the lists of tradesmen recently ejected from their premises for failing to adjust their prices to the official lists, he might grow in faith Plainly, from the standpoint of his individualistic orthodoxy, he would have to condemn Mr Baldwin for socialism On p 233 he cannot quite bring himself to credit the State with undoubted advances in social relief, individual initiatives must be responsible

One soon suspects that despite the wide cast of his net, M Rosenstock-Franck has not failed to select the fish to suit his fare He accepts the testimony of political exiles, "interprets" that of Fascists But is not the former far more open to bias? Not that he credits all Fascists with chronic mendacity Rather, they just cannot understand We must wave aside their explanations with an indulgent smile "Comment ne pas sourire à ces cabrioles!" (p 226) Why, in assessing the policy of public works, does he ignore secondary employment? What becomes of the unemployed not in receipt of the regular insurance relief? he asks, not having noticed, apparently, the reports in the *Corriere della Sera* of the emergency grants which are always being made in the Duce's name to depressed areas His naive method of discrediting the public works (p 221, note 1) and wages policy (p 162) is by the familiar journalistic trick of juxtaposing French and Italian results over the same period without comment on the diversity of economic conditions in the two countries which would explain and justify the difference Such dodges, useful for propaganda, might deceive the innocent, but alienate the student A knowing air often serves to conceal superficiality—compare M Rosenstock-Franck's study of the collective contract for the iron and steel industry, with P Corti's in *La Carta del Lavoro e i contratti collettivi* A less unsympathetic approach, more concern to explain than to debunk, might have told us why Socialism had to yield to autocracy in 1922, what political and economic necessities lie behind the policy of State intervention, why the Italians are still pegging away at their Corporations and after ten years of Fascism still over-subscribe public issues However, granted M Rosenstock-Franck's unfortunate point of view, granted his inadequacies (within the actual framework of his selected facts, he misses much that would strike a professional economist, *e g* he does not remark that Fovel's proposals on p 406 rest on Marshall's now-discredited theory of Consumers' Surplus), granted the inaccuracies which are perhaps inherent in such difficult and controversial subject-matter (*e g* official figures since revised, their degree of trustworthiness, etc), granted that nearly

all his conclusions could be, and often have been, disputed, he has undoubtedly produced a study of great interest and importance

K WHITE

*Queen's College,
Oxford*

A History of National Socialism By KONRAD HEIDEN
(Methuen. Pp 370 15s)

THE writing of contemporary history is a hazardous undertaking which, if it demands very special qualities in the writer, demands special indulgence from the critic. For an historian to attempt to tell the story of a political revolution in his own country, in the course of which every cause which he values has not only been vanquished but brutally trodden underfoot, his friends beaten and killed, and himself exiled, is to put the severest possible test upon his own powers of objective and impartial narration. It is this task which Konrad Heiden has set himself in this *History of National Socialism*, and in which he has, to a high degree, succeeded.

As it appears in its English dress the book is a combined version of two books by the author which have appeared in German—*Geschichte des National-Sozialismus* and *Geburt des dritten Reiches*, and, in combining the two, much of the first of these two works, which deals with the earlier history of the Nazi Party, has been omitted, though almost the whole of the second work has been included. For those interested in the Nazi development the author's earlier work in German, therefore, remains indispensable. Herr Heiden's account of the whole movement is deeply interesting and astonishingly complete and accurate, in view of the rapid development which has taken place. He is, too, at least as objective as any man of liberal mind so intimately affected by the events he describes could be expected to be. An enemy of the Nazi régime from deeply held principles, he nevertheless seeks to explain not only the reasons for its successful appeal to the German people, but also such merits as its inchoate doctrines possess. He is particularly skilful in his sketches of character, the portraits of Hitler and Goebbels being notable examples of insight. So, too, he presents with great skill the internal conflicts within the Nazi party and the complicated intrigues which occupied the period from the fall of Brüning to that of Schleicher (May 1932–January 1933). That there is more to be known of that crucial period in German history goes without saying, but

that Herr Heiden's interpretation is in the broad sense correct seems very probable. It is also extremely instructive, for it tends to correct the assumption widely made by Communist observers that Fascism is an "inevitable" stage in the decline of Capitalism, and an "inevitable" prelude to the coming of Communism. Herr Heiden is not obsessed by systematic inevitabilities and the tenor of his pages is that nothing but the peculiar stupidity of a limited section of German great industrialists and landowners gave Hitler his opportunity.

Herr Heiden does not devote much space to the general economic background of the Nazi movement, though he shows clearly enough how it affected the farming class in particular and the bourgeois in danger of proletarianisation in general. He explains, however, the particular "interests" which, in the winter of 1932-3, came to the rescue of the Party at the moment of its greatest financial weakness, when Gregor Strasser is said to have talked of "twelve million voters and twelve millions of debt." It was, Herr Heiden suggests, the "bankruptcy-socialism" of the heavy industries of the west and of the large landowners in the east—the policy which "regarded only the chance of gain as the sacred privilege of the private individual, while the risk of failure was tacitly handed over to the State" (p. 203)—which saved the Nazi Party and prepared the path of Hitler to power. The underlying problem of the régime, certain to be intensified if the economic position of Germany continues to become worse, is that of how to reconcile this "bankruptcy-socialism" of the industrialists and landowners with the perfectly genuine, if hazy and emotional, socialism of large masses of the rank and file.

The translation of the German version is accurate and easy, and the book itself will for long remain an absolute necessity for all students of German history since the Revolution of 1919.

E. J. PASSANT

*Sidney Sussex College,
Cambridge*

Australia an Economic Interpretation By G. V. PORTUS, M.A., B.Litt. (Australia Angus and Robertson, Ltd. 1933 Pp. 104 3s. 6d.)—*Australia's Government Bank*. By L. C. JAUNCEY, Ph.D. (Cranley and Day 1933 Pp. 288 7s. 6d.)—*The Economic Resources of Australia*. By H. L. HARRIS, M.A., LL.B. (Australia Angus and Robertson, Ltd. 1933 Pp. 125 3s. 6d.)—*Australia as Producer and Trader, 1920-1932*. By NANCY WINDETT, B.Sc. Econ.

(Oxford University Press 1933 Pp 320 15s)—*The Peopling of Australia (Further Studies)* (Melbourne University Press 1933 Pp 327 4s 6d)—*The Australian Economy Simple Economic Studies* By D B COPLAND, CMG, MA, DSc, in collaboration with G A WELLER, BSc Econ, BCom (Australia Angus and Robertson, Ltd 1933 Pp 171 4s 6d)

THE gem of these six is the brilliant little book of Mr Portus. He recounts the economic history of Australia from 1788, when "Captain Arthur Phillip arrived at Botany Bay with a company of about 1,000, of whom, roughly, 700 were convicts," to the recent Lang episode, when the invasion of the autonomous rights of a State by the Commonwealth demonstrated that "Australia is evolving from a federal to a unitary form of government." Mr Portus has a happy combination of gifts. He can choose just those events which were significant. He can illustrate, where needed, by statistics or an apt quotation. He can explain, in a few telling phrases, why an event happened and what its consequences were. And his English, lucid and witty, is a joy to read.

Dr Jauncey gives us a history of the Commonwealth Bank. His belief that "clearing is the main operation of central banking" prevents him from grasping the significance of the Act of 1924, which gave the Bank sole control of the note issue and compelled the other banks to keep balances with it, and he equally fails to realise the possible conflict between a stable sterling exchange rate and other aims, and the reasons why Professor Copland, for example, approves of the recent issues of Treasury Bills. The reader may be disturbed by such assertions as this: "The ideal solution of the currency problem would be an international currency issued by an international bank based upon the productive and commercial services of the world", and he may be surprised to read of a run successfully resisted "by putting on more tellers," but he will find here fairly full information about the Bank, since it began in 1912 with nothing but an overdraft of £10,000 from the Commonwealth Treasury. The book is also adorned with cartoons and photographs, including a good photograph of Ralph G. Hawtrey, "British economist."

Mr Harris has collected a number of facts about Australia and presents them in a brief compass. Serious students will continue to use official statistics and the writings of Griffith Taylor, but this little work may interest the general reader.

Mrs Windett also has collected facts, but facts not readily accessible. Her presentation of the influences affecting the pro-

duction and marketing of the main commodities produced in Australia, since the war, is a substantial contribution to knowledge

No fewer than sixteen persons have co-operated to produce *The Peopling of Australia (Further Studies)*. Despite this division of labour, the subject yields diminishing returns. The most interesting paper is perhaps the detailed account of the post-war group settlement scheme in Western Australia. The final result of this unfortunate attempt at economic planning was that after ten years and the expenditure of ten million pounds, 1,704 group settlement farms were established in the south-west of the State. Mr. Bridgen ("Secondary Industry in its Relation to Population Absorption") becomes more difficult to follow than ever. He says that less than 400,000 persons, out of 2,650,000 breadwinners, are employed in "basic" export industries, "all other industries and services are secondary" (p. 108). "A diversion of production from basic industries reduces the original and basic income from which all secondary production is derived" (p. 124). One would expect from this a conclusion that exports should be subsidised, instead we are told that "there is nothing uneconomic in seeking to become more self-contained and in promoting local industries, provided—and always provided—that we do not impose excess costs on our marginal production beyond its capacity" (p. 131). One hopes this volume will help to kill the delusions about "vast empty spaces" in Australia waiting to be filled by migrants from Great Britain.

The Australian Economy now appears in a third edition, enlarged and brought up to date with the aid of Mr. Weller. These "Simple Economic Studies" explain recent events in Australia, giving the relevant economic theory as a background. They contain little that is very controversial, although some may object to the bold statement that "a fall in the general level of wages is necessary if industry is to be restored, and this is the quickest and surest way of increasing spending power" (p. 109), while others may complain that the depression is not exhibited as an inevitable consequence of the preceding boom. It would be useful, in the next edition, to include a chapter on the Theory of International Trade. Among the writers here reviewed, Mr. Harris cannot understand the objections to the protected sugar monopoly ("It cannot be shown that the industry is inefficient"), Mr. Phillips in his Introduction to *The Peopling of Australia* seems unaware of the part played by the uneven distribution of different factors (on p. 19 he suggests that differences in comparative costs result mainly from differences in "technical skill and knowledge"),

and even Mrs Windett conveys the impression that to show that a tariff raises prices is to show that it is harmful

F BENHAM

The Monetary Problems of India By L C JAIN, Reader in Economics in the University of the Punjab (London Macmillan 1933 Pp x + 222 10s 6d)

MANY books have been written on Indian currency, banking and finance during the past fifteen years, but Mr Jain's new book is by no means superfluous. He is already well known for his book *Indigenous Banking in India* (1929), which created a very favourable impression on economists acquainted with Indian banking. It was the result of extensive personal inquiries amongst native bankers, and contained much information not previously accessible to English readers. That book was published just before the Central Banking Inquiry Committee, appointed by the Government of India, began its elaborate inquiry into present and future banking facilities. The Central Committee based its report mainly on the voluminous reports and evidence of ten provincial banking inquiry committees, which were set up to conduct inquiries on uniform lines in each of the provinces with the assistance of local banking and trade associations, and on the information supplied by similar inquiry committees in nineteen Indian states. The inquiry lasted more than two years, and Mr Jain was himself Secretary of the United Provinces Committee. The task which the author set himself in writing the present book was, therefore, essentially different from that of his earlier work. With the numerous reports of the Committees and some twenty volumes of evidence, further direct inquiry into facts was less urgent than an analysis of the immense mass of material made available. *The Monetary Problems of India*, however, is not merely a summary of the recent Banking Inquiry and the reports of the numerous preceding royal commissions and committees: it contains a connected account of the development of the Indian currency, banking and the money market, and a description of the effects in India of the British currency crisis of September 1931, and the subsequent course of the depression of trade.

The book is a comprehensive review of the money market, using the term in its widest sense to embrace the whole financial machinery, including currency management, the stock exchange, and company promotion. The first two chapters are devoted to a survey of the history of the Indian currency system from 1816

to 1931, and are a model of lucidity and judicious selection, with ample references to original authorities. There follow three chapters on the Money Market, covering respectively indigenous bankers, loan offices, co-operative credit societies and state loans to agriculturists, joint stock and exchange banks and the Imperial Bank, the Post Office, Government borrowing, and the Stock Exchanges. Chapter VI describes the Banking Inquiry and discusses the nature of the problems involved in the extension and better organisation of banking in India, and various suggested solutions, whilst the last chapter, "The Future Outlook," is a wider discussion of the problems of banking, currency and the money market.

Here and there the author has imposed on himself limitations of space which the reader may well resent. For instance, on p. 150 the low prices of Government securities prevailing in recent years, some issues being practically unsaleable, are stated to be "obviously the result of increasingly high rates at which State loans were floated, the maintenance of a high bank rate" and several more causes, said themselves to be due to other causes, which are not even specified. Here was an opportunity for some important original investigation. If that was outside the scope of the book, some support at least should have been quoted for the opinions expressed, as they are certainly controversial. The book does not invite criticism, however, for it is an admirable survey of Indian currency, banking and finance, which no student of Indian economic conditions can fail to find useful. Moreover, it is written in an attractive style and is a model of clear and concise English. On this ground Mr. Jain ranks high amongst Indian writers of English, as he does for subject-matter amongst Indian economists.

H. S. JEVONS

India's Foreign Trade since 1870 By PARIMAL RAY, M.A., Ph.D., with a Foreword by SIR JOSIAH STAMP, G.B.E. (London: Routledge, 1934. Pp. xvii + 300. 12s. 6d.)

AN economic study of Indian foreign trade, carried through in a scientific spirit, has long been wanted, for existing books are either purely descriptive or biassed by political animus against Britain, or by the author's anxiety for the prosperity of Indian industries. Dr. Parimal Ray chose this subject for research at the London School of Economics, and revised his thesis to form the present book. He had the advice and assistance of Professor Sargent, Dr. Vera Anstey and Dr. Gilbert Slater, and the

result is a careful study of the growth and changes of the foreign trade of India during the past six decades, with a postscript on the effects of the currency crisis of 1931. The growing volume and altered composition of imports and exports are correlated with the internal economic development of the country, the improvement of ocean transport, and the vicissitudes of the currency.

The book is divided into three parts: the first showing that foreign commerce entered on a new development in magnitude and kind from about 1870, the second containing an analysis of the development of trade, showing that it falls into five well-defined periods, beginning respectively in 1870, 1900, 1914, 1919 and 1923, and the third discussing in four chapters the effects of currency changes on trade.

The historic commerce of India was the export of silk and fine cotton piece goods, spices, oils, and Oriental luxury goods. The drain of specie from Europe needed to pay for a large part of these goods led to the East India Company adopting measures to make a market for English textile goods in India, but European goods were little in demand beyond the port towns till after 1860. From 1870 on, however, the development of the railway net in India, the opening of the Suez Canal, the extension of canal irrigation, and the reduced prices of European goods led to the arrival of ever-increasing quantities. Machinery too was coming more freely to India for its jute and cotton mills and miscellaneous factories. In exports luxury goods declined in relative importance with the growing demand for Indian wheat and rice and for cotton and many other raw materials. Indian manufactures, especially jute cloth and cotton yarn, also became important exports. German and other Continental goods were ousting British products during the period 1900-1914, but since the War these have given way to Japanese, and later also to Chinese goods.

The third part of the book shows that on the whole the great fall of the price of silver and the later fluctuations of the exchange had less effect on trade than is generally supposed, and that the common belief in India that the country's trade is at the mercy of British exchange policy is a misconception. The author is fully competent in marshalling his evidence, and has drawn freely for recent periods on reports of the Indian Tariff Board, and on statistics of production in competing countries. He deals with numerous problems in the economic adjustments to changing price and wage levels, exchange rates and tariff policy, and

with conclusions which appear generally to be sound, or at least to be reasonable hypotheses

This survey of Indian foreign trade does not profess to be exhaustive. The author hopes to follow it up with a companion volume which will attempt to fill in the picture with "a fair amount of detail". If this excuses some obvious omissions, it does not justify failure to mention the overland foreign trade and to indicate the special part played by Burma in that growth of foreign trade since 1870 which he is analysing. From this book the reader might imagine that India has no foreign trade with the neighbouring countries of Asia. It would almost seem as if the author had not noticed that the official reports from which he quotes statistics relate to the "Sea-borne Trade of India". The overland trade is of quite different character and comparatively small in value, but it should have had a few pages. There is no mention either of the special "Annual Statement of Sea-borne Trade and Navigation of Burma" which is published by the Government of Burma, containing a detailed account of the trade of Burma with India and foreign countries. Much of the growth of demand for European goods in the period covered by the author arose in Burma rather than India, so also the great increase in the export of rice. Geographical and racial differences are completely obscured by merely using grand totals for the Indian Empire. It is to be hoped that these and similar defects will be remedied in the promised companion volume.

H S JEVONS

Indian Labour in Rangoon By E J L ANDREW, Assistant Protector of Immigrants and Emigrants (ret'd), introduction by PROFESSOR H S JEVONS (Oxford University Press 5½ × 8½, pp xxxv + 300, graphs and map 10s 6d net)

BURMA, though part of the Indian administration, does little for the Indian labour on which she depends, whereas Ceylon and Malaya do much. Probably it plays a smaller part in her total economy than in theirs, so that she has not been driven to face the issues, nor is pressure brought to bear from India, because the labourers belong to the most abject classes. Nearly one million of her 15 million people are Indians, but even the humbler of these are, like Burmans, in comparatively permanent employ, and during the dry half of the year, into which operations impossible during the rains are concentrated, the labour force has to be supplemented from outside. Hence 300,000 seasonal immigrants come from India every year, and their arrival renders

Rangoon the greatest immigrant port in the world, outstripping New York in the last decade or two

The system has been growing since the 'sixties, but not till 1919 did the Government of Burma appoint a Protector of Immigrants, a pluralist high official whose actual work devolved on the author. He had no staff but he formed a centre for observation, and this book is the result. Hitherto the subject has been without a literature, and the author writes in his private capacity, but he writes under official encouragement and his appendices include not only the Report of the Rangoon Riots Inquiry Committee, but also statistics (immigration, mortality, diet, prices, family budgets and indebtedness) compiled with the aid of the departments concerned.

Two-thirds of the 300,000 seasonal immigrants remain in Rangoon, a city of barely 400,000, which they overflow, sleeping literally in the roadway, so that in many a side-street traffic is impossible, but this is preferable to the conditions they create in overcrowded tenements, to the despair of sanitary authorities, only 6 per cent are women, and the sex problem is acute. They are imported by coolie bosses, men of their own race, they arrive in debt to the coolie boss, and when they leave six months later they are still in his debt. The employer, especially the European employer, pays good wages, but they seldom reach the labourer, the coolie boss retaining anything up to 50 per cent and the pay-roll sometimes including names which exist only on paper. The labourers themselves are the chief obstacle, illiterate, improvident, unorganised, they are unable to imagine any other conditions, nor do they respond to treatment. Yet lack of supervision can have sensational consequences—in May 1930, Burmans, hitherto scornful of such tasks, were introduced to break a strike among Indian dock labourers, and when the strike was broken they were thrown aside, there was nobody responsible for keeping in touch with the situation, the Burmans proceeded to kill 110 starveling Indians and wound 800 more, some of them women and children.

Great employers have made a beginning, the Rangoon Port Commission dealing direct with its labour, the Burma Oil Company instituting welfare organisations. But some general scheme is needed, and the author points to Ceylon and Malaya, where employers have eliminated intermediaries. Thus, under the Malaya system, licensed recruiters (ex-labourers of good character) carry printed official information to the labourer's home village in India, explain it in the presence of his literate caste-leaders,

and arrange for his free passage, and many other benefits proved to be practicable as the system developed. The system pays for itself, from the difference between what the employer would otherwise pay and the labourer actually receive, the difference which would go to intermediaries.

The White Paper proposes to separate Burma from India and transfer further power to Burman politicians, some of whom take economic progress for granted but desire to expel the Indian on whom it so largely depends. The proposed safeguards will prevent this. But the sentiment might be used to facilitate measures which, while restricting the quantity of Indian immigration, would improve its quality.

G E HARVEY

The Foundations of Agricultural Economics 2nd Edition By
J A VENN, Litt D (Cambridge University Press 1933
Pp xvii + 567 25s)

THE first Edition of Dr Venn's book was reviewed in this JOURNAL by Mr Orwin in June 1924. Since that time it has become so well known to all students of economics that a further introduction is unnecessary. The new edition contains, however, a considerable body of new material. Seven chapters have been added and a large part of the existing matter has been rewritten.

A new first chapter deals with the relationship of economic theory to agricultural practice. To cover in twenty-seven pages the application of an immense body of theoretical thought to a field that embraces fully one-half of all human activity is a task that might deter the bravest. Inevitably Dr Venn's survey is at many points superficial and elementary. He is concerned chiefly with the truths of the Law of Diminishing Returns as applied to agricultural enterprise. An economist would probably wish that Dr Venn had been able to be rather more precise in his statements of the Law. He envisages it in two aspects, that of diminishing returns in profits and that of diminishing returns in yields, and it is by no means easy to discover at any point which of these two aspects (the second familiar, the first unfamiliar) he has in mind. Nor is it always clear whether he is thinking of an increased use of all resources (including land), or of an increased application of other resources to a limited area of land. The first problem becomes the problem of the optimum holding, the second the problem of Diminishing Returns as usually stated by theoretical economists.

It is perhaps to be regretted that Dr Venn has devoted so much space to this somewhat arid discussion and thus felt himself precluded from a more detailed study of some of the more interesting fields in which economic theory has recently been concerned with the problems of agriculture. The statistical investigations of Professor Schultz, Miss Cohen and others into elasticities of demand for agricultural products receive rather less detailed consideration than they deserve, and the wider problem of the relation of the stabilisation of individual agricultural prices to the stabilisation of all prices, and of production generally, receives no mention, important and debatable though it is. But Dr Venn must not be blamed for failing to achieve in brief space the unachievable.

The other substantial additions to the book are to be found in a chapter on crop estimating and forecasting (which is in large part reproduced from articles which have appeared in this JOURNAL), and in three new chapters, constituting Part II of the book, which give an account of British Agriculture during and after the Great War. Two of these three chapters are concerned with the emergency problems of war-time, with the attempts to meet shortages by bringing additional land under the plough and the effects of this on average yields, and with the methods of price control made necessary by temporary scarcities. In the last chapter Dr Venn brings his narrative down to the sugar-beet subsidy and the Ottawa agreements. The new edition was completed early in 1933 and the full story of the Elliot agricultural policy falls outside its horizon. One could wish that Dr Venn had postponed by a year his revision so that one might have enjoyed his comments on some of these more recent events.

E A G R

The Agricultural Register, 1933-4 (The Agricultural Economics Research Institute, Oxford 1934 Pp vii + 229 3s 6d (post free 4s))

THIS is exactly the book that the ordinary reader wants, in order that he may discover the main outlines of the very complex recent developments in agricultural policy. Prepared by the research staff of the Institute under the directorship of Mr Orwin, it gives an admirably objective account of the various items in the new policy. A brief introductory section of ten pages sets out the principles of the policy, and in the second section we proceed immediately to the particular. This section deals

with legislation as it affects agriculture. The Agricultural Marketing Acts and the various bodies created under the Acts are described in some detail. A complete list is given of the various statutory rules and orders made hitherto under the Acts. In similar detail the rules and orders for agricultural products made under the Import Duties Act of 1932 and the Ottawa Agreements Act of the same year are set out. Other Acts and Agreements are all in turn briefly summarised.

A third section deals with Administrative Action. The purposes and functions of the various Reorganisation Commissions and Marketing Boards are considered, and the different schemes and the prices fixed under them are fully described. A fourth section is concerned with Prices and Supplies, first in general and then for particular commodities. The main sources of supply of each commodity are given, and the effects of Ottawa and other trade agreements and of duties or quotas are briefly indicated.

Three final sections are entitled respectively Agricultural Statistics, Employment, and Miscellanea. The last section contains an exceptionally clear and unbiassed account of the tithe problem, including, as everywhere else in the book, precisely the statistical information that an intelligent reader would ask.

This little book admirably fulfils the objects of its producers "to form a book of reference for those interested, whether agriculturists, students of economic and social policy, or those who will have to foot the bill." Mr. Orwin has promised in a foreword that, if it proves that it fills a want, it shall become an annual. It is to be hoped, therefore, that we may look forward to its regular appearance. With this intention Mr. Orwin has invited suggestions from readers for extending its usefulness. Would it be too much to ask that he should give us a little more help in calculating the bill which we shall be asked to pay for the new agricultural policy?

E A G R

NOTES AND MEMORANDA

ADAM SMITH AND THE GLASGOW MERCHANTS

QUITE recently there have been found the three pamphlets, mentioned below, which afford further light on this subject, and which may be of interest to students of Adam Smith. In Rae's *Life of Adam Smith* (pp 60, 61) it is recorded that Dugald Stewart quoted a Glasgow merchant—James Ritchie—as having said that Adam Smith, during his professorship in Glasgow, “had made many of the leading men of the place convinced proselytes of free trade principles,” and Sir James Steuart agrees with this for the period following 1763. As to the leading merchants of the time in Glasgow, the late Dr David Murray has described the Club formed there for the discussion of matters relating to trade and which was founded prior to 1743¹. Adam Smith became a member on his coming to Glasgow in 1751. Murray indicates which of the leading business men were known to be members, and which probably belonged to this Club. The tracts, which are detailed below, and which consist of *Reports* of the Glasgow Chamber of Commerce, show that in the interval between the date at which Sir James Steuart wrote and 1787 Adam Smith's influence on the merchants of Glasgow had not only been maintained, but had increased.

The Glasgow Chamber of Commerce and Manufactures was founded in 1783, being the first of existing Chambers to have been established. It is known to have been very active in its early years, but until recently there was no record of any publications by it at the beginning of its history. Lately three early *Reports* have been discovered and have been presented to the Chamber, where they will be available in its Library.

These are —

(1) *Report of a Committee of Directors of the Chamber of Commerce and Manufactures of Glasgow relative to the proposed alteration of the Corn-Law and Resolutions of a General Meeting of the Chamber thereupon. With an Appendix, containing the Minutes of the Landed Proprietors*² which gave

¹ D Murray, *Early Burgh Organisation in Scotland*, Vol I, pp 446–459

² These were the Landed Proprietors of Scotland. Their meeting was held at Edinburgh, 4th August, 1786.

occasion to the present Alarm Published by order of the Chamber Glasgow, 1787

(2) *Thrd Report of a Committee of the Chamber of Commerce and Manufactures in Glasgow, relative to the Corn-Laws. Glasgow, 1790*

(3) *Report of the Committee of the Directors of the Chamber of Commerce and Manufactures of Glasgow on the Bill brought into the House of Commons for regulating the Importation and Exportation of Corn Glasgow, 1790*

It would seem that the order of the last two items is inverted, but this is not so, as is shown by the following particulars, extracted from the minutes by Mr Cameron, the Secretary. The *Report* of 1787, (1) above, was approved on January 2, 1787. It was ordered to be printed, and the five hundred copies were to be distributed to members of the Chamber, members of Parliament and other gentlemen concerned. Another *Report* was prepared in 1790. That of 1787 was treated as the first report, and this was called the *Second*. It was approved on March 15, 1790, and ordered to be printed.¹ No copy, as yet, has been noted. Then came the *Thrd Report*, (2) above, approved and ordered to be printed on April 9, 1790. The other *Report* of 1790, (3) above, was approved on November 2, 1790.

The *Report* of 1787 is the most interesting in several ways. As to its provenance—it comes from the Earl of Home's Library, and quite possibly it has survived, not for its own sake, but through being bound with two other tracts—one being *Certain Observations* on a military inquiry. Evidently the bound volume was thought to be of considerable interest at one period, for it is marked "Ld H's Room." The date, too, indicates a certain fitness of things. The Directors of the Chamber of Commerce at Glasgow approved the *Report* of their Committee on January 2, 1787. It was in April of the same year that Adam Smith went to London, where he received the tribute from Pitt at Dundas's house which has been recorded by Kay.² Thus, while Adam Smith's fame was being notably recognised in London, it was being confirmed amongst the Glasgow merchants by whom, it is related, his economic views had been first accepted.

¹ There is a MS note on the paper cover of the *Thrd Report* "2nd in Mr Colquhoun's—1 May, 1790," which may mean that the original owner of this copy had left the *Second Report* with Mr Colquhoun. The latter in all probability was Patrick Colquhoun, who, besides having been a Lord Provost of Glasgow and the founder of the Chamber of Commerce there, was author of *A Treatise on the Population, Wealth, Power and Resources of the British Empire* and many other books. In 1790 he had removed from Glasgow to London.

² Rae, *Life of Adam Smith*, p. 405.

The earliest of these *Reports* is concerned with principles the later ones (which survive) with their applications. Like the corresponding part of *The Wealth of Nations*, this *Report* begins with a historical introduction. It is remarkable for its emphasis on Free Trade and, still more, therein going beyond Adam Smith himself, in the conviction that these principles would be adopted at a date which would not be remote. "Till that happy period shall arrive when the landed as well as the commercial men of the nation shall see their true interest in permitting *the free importation and exportation of corn at all times*,"¹ etc. Again, the Directors pledged themselves, "if a free importation and exportation of corn, at all times, cannot *yet* be obtained," to use all lawful means to oppose the alterations proposed and others of the same oppressive tendency.² They lay down the following principles, which they claim, in spite of the diversity of expression, represent the meaning of resolutions passed by the magistrates and council of Glasgow, the Merchants House, the Trades House, the Master Manufacturers, the Incorporations and many other societies of Glasgow, the Magistrates and Council, the Master Manufacturers, the corporations and societies of Paisley, the Magistrates and Council and societies of Greenock, of Port Glasgow, of Saltcoats, of Hamilton, of Kilmarnock, the manufacturers of Anderston and many others that

"a free importation and exportation of grain and meal are the surest means of encouraging manufactures and promoting the prosperity and power of the nation."

"These important ends have been retarded by the operation of the Corn-Laws restraining importation and by bounties encouraging exportation of grain from a country which cannot supply its own inhabitants."³

These principles are stated, and to some extent applied as against the landed proprietors in the *Report* of 1787. The others are concerned with matters of detail. They are of importance in relation to the administration of the Corn Laws, and give some interesting glimpses of the state of agriculture in Scotland at the time.

W R SCOTT

¹ *Report*, 1787, p. 15

² *Ibid.*, p. 28

³ *Ibid.*, p. 14

REFLECTIONS ON THE CONSEQUENCES OF THE STABILISATION
OF THE FRANC ON FRENCH FOREIGN TRADE

It has been contended by Mr Hawtrey¹ that the French stabilisation brought unexpected consequences, quite contrary to classical economics, that is to say, an increase of exports and a decrease of imports

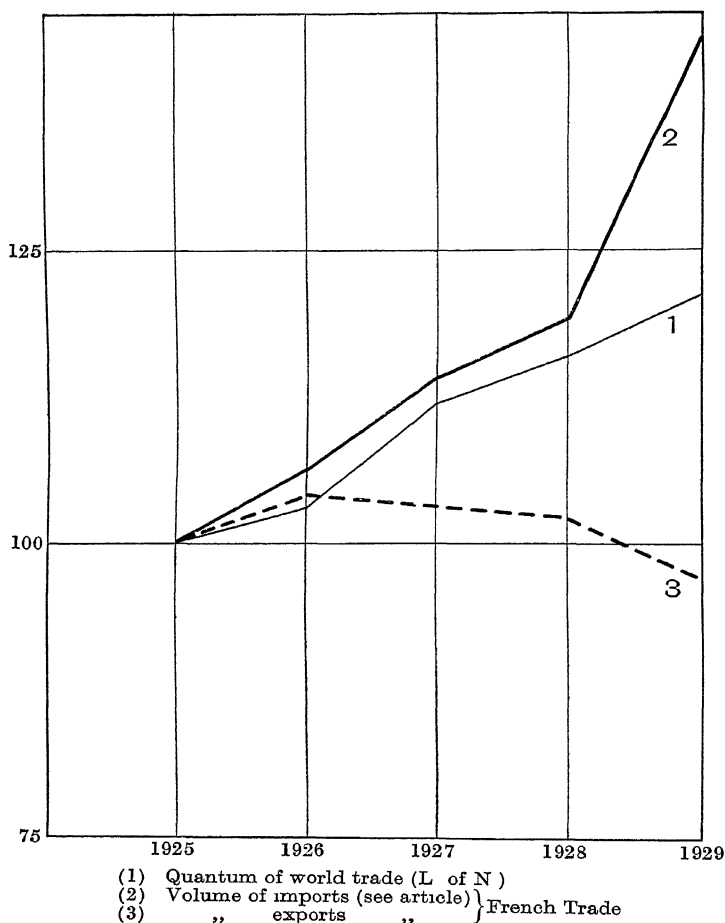
But the truth of this is a matter for discussion. If values are considered, they must be values in a stable money. The only way of getting that result, though a rough one, is to multiply monthly figures in fluctuating francs by an appropriate coefficient, calculated according to the average value of the dollar during the month. If that is done, it appears that, taking 1925 as 100, imports fell, as one would have expected, in 1926, and then increased, first slowly, and quickly from 1928 onwards. The values of exports follow also the expected course from 1927 onwards, but seem to favour Mr Hawtrey's thesis in 1927. That might, however, be an illusion. If, between 1925 and 1926, internal prices failed to increase as much as the gold value of the franc decreased (and it is a fact that they did so), the figure of 88.8 in 1926 is not at all reliable, and the whole movement 1925 to 1927 ought to be studied in another way.

Hence changes in prices ought to be considered. If that is done, Mr Hawtrey seems, at first, to be right. The *Statistique Générale de la France* has established an index number of "activité des échanges indépendamment de la variation des prix". That index, for exports, rises in 1927 and 1928, and then falls, for imports, it falls in 1927, and then rises. The *Statistique Générale de la France* contends that this is a normal course, arguing that, when a crisis appears in a certain country surrounded by a prosperous world, it always brings an increase in exports and a decrease in imports. But the French crisis was not an ordinary one, with falling prices, on the contrary, internal prices were rising, and, on the other hand, the world was not so prosperous, being just in the midst of a mild depression of a short cycle. Moreover, it looks extraordinary that the index for imports should have fallen, when the gold values of imports had increased and the world prices of those imports had decreased. It might be asked whether that index, established in a rather complicated way, is not affected by hidden causes of error. If, in a very rough way, the total value of imports be divided by

¹ R. G. Hawtrey, *The Art of Central Banking*, Chapter I, p. 18, l. 1, "People spent less on importable and exportable goods."

an index number of world wholesale prices, a contrary result is obtained. It is well known that such a quotient is no precise measure of "volume," but its indication might be worth attention, especially if it gives logical results.

If we try to work such an index number for exports and



imports, everything looks much more usual. The only discrepancy is an increase in the volume of imports in 1926, but some conservative buying of materials, keeping their gold values, might well have been done at that time.

I naturally do not contend that these reflections are not a

little arbitrary, only that their truth deserves to be considered. A careful study of detailed imports and exports in 1926 and 1927 could decide which way the truth is to be found. At a first view it seems that it is on Mr Hawtrey's line, tonnage having heavily varied in the direction favourable to his thesis, but it also appears that the exports of "articles de luxe" fell heavily and very fast, and perhaps that might change the picture enough to make our thesis prevail. Anyway, there is here matter for discussion.

That is still clearer if the French international trade is not taken by itself, but compared with world trade. The quantum of World trade as given by the League of Nations, plotted on a chart with our index of the volume of French exports and imports, shows that French exports since 1926 have been largely decreasing relatively to the development of world trade, and that imports, on the contrary, have increased more than the total world trade. The only discrepancy is the already examined case of increased imports in 1926.

Indices of French and World Trade

(1925 = 100)

	1925	1926	1927 ¹	1928	1929
World trade (L of N)					
Value	100	95	101	104	106.5
Quantum	100	103	112	115	121
French trade					
Value { Imports	100	94	100	101.5	110.9
Exports	100	88.8	99	93	90.7
Tonnage { Imports	100	95.5	104	104	125
Exports	100	107	125	135	131
Activité (S G F) { Imports	106.2	111	109	116	133
Exports	124.2	134	146	148	146
Volume { Imports	100	106	114	119	143
Exports	100	104	103	102	97

French Foreign Trade

	1925	1926	1927 ¹	1928	1929
Values in francs, 1928					
Imports	52 631	49 321	52 983	53 426	58 284
Exports	55 186	49 021	54 640	51 375	50 071
Tonnage in metric tons					
Imports (monthly average)	3 953	3 783	4 103	4 112	4 955
Exports (monthly average)	2 532	2 713	3 167	3 427	3 326
Volume of trade					
Imports	32 440	34 435	36 910	38 689	46 482
Exports	39 141	40 595	40 288	39 894	37 836

¹ Stabilisation "de facto" of franc

² 1913 = 100

Hence, if French trade statistics are taken as reliable, it is possible to bring out of them, without introducing causes of error by intricated calculations, though perhaps introducing some inaccuracy by too rough a method, a confirmation of old economic theory Is that simple method reliable? And, in case of doubt, does the fact that it gives logical results add a sufficient weight, the probability to its reliability? That is only a matter of opinion

PHILIPPE A SCHWOB

*Institut Scientifique de Recherches
Économiques et Sociales*

THE NEW CENTRAL BANK LEGISLATION IN CANADA

IN keeping with the majority recommendation of the Royal Commission appointed to investigate the problem, the Canadian Government, on February 22, introduced into the House of Commons a Bill to establish a central bank In general, the Bill followed the "Suggestions" in the appendix to the Commission's Report The main provisions of the Bill may be set out briefly

1 The bank is to be privately owned, and the shareholders elect all the directors, who appoint the managing officers, subject to Government approval The first set of directors and officers, however, are to be appointed by the Government

2 The bank is to keep a minimum reserve of 25 per cent in gold (the Report had gold and foreign exchange), but may hold foreign exchange, etc, in addition

3 The Government's note issue is to be taken over by the bank, and any deficiency between the note-issue taken over and the assets against it is to be made up by the Government with three per cent bonds having maturities up to five years

4 The bank is to hold the Government's balance and manage the public debt, it may act as banker for the provinces

5 The commercial banks are to hold with the central bank a minimum reserve deposit equal to at least five per cent of their total deposits in Canada

6 The central bank is to have the right of note issue, and beginning in 1936 the note issue of the chartered banks is

to be gradually retired until by 1946 there will remain a note issue equal to 25 per cent of their paid-up capital. No provision is made for the extinction of this residue.

7 The commercial banks' gold holdings are to be taken over at the statutory price, thus giving to the central bank any potential profit, which must, however, if realised be turned over to the Government. Provision is made for allowing the banks an adjustment on any gold held specifically against foreign business.

8 All existing borrowings (rediscounts) under the Finance Act are to be paid off the day the bank begins business.

9 Weekly returns of the conditions of the bank are to be made public.

The Bill was sent to the House Committee on Banking and Commerce on March 9.

The Bank Act—that is, the general statute under which the commercial banks operate—was also before the Committee, and received more of the Committee's time, owing to an investigation which it undertook into some phases of commercial banking practice in recent years. The Committee started on the Central Bank Bill about the middle of May, and finished with it on June 4. No witnesses were heard, other than bankers on certain points, particularly the price to be paid for the commercial banks' gold.

The changes made in the Bill in the committee were not numerous or in most cases significant. The main changes were as follows:

1 The Department of Finance was given the task of initiating the bank, and its officers are to act as directors until the shareholders have an election. This change relieves the Ministry from appointing the initial directors.

2 The Deputy Minister of Finance is made an ex-officio member of the Board of Directors, thus adopting one of the least desirable aspects of the U.S. Federal Reserve Act.

3 The reserve of the commercial banks may be in the form of a deposit with the central bank or in central bank notes—a change of considerable importance to the banks.

The bill received assent, and is now in force.

The Opposition—Liberals, farmers, and Labour—objected strenuously to private ownership and control, and many amendments were moved in the House and in Committee to have the Government appoint the directors—all or some—but all such amendments were voted down. Amendments to give the

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The Bill was sent to the House Committee on Banking and Commerce on March 9.

The Bank Act—that is, the general statute under which the commercial banks operate—was also before the Committee, and received more of the Committee's time, owing to an investigation which it undertook into some phases of commercial banking practice in recent years. The Committee started on the Central Bank Bill about the middle of May, and finished with it on June 4. No witnesses were heard, other than bankers on certain points, particularly the price to be paid for the commercial banks' gold.

The changes made in the Bill in the committee were not numerous or in most cases significant. The main changes were as follows:

1 The Department of Finance was given the task of initiating the bank, and its officers are to act as directors until the shareholders have an election. This change relieves the Ministry from appointing the initial directors.

2 The Deputy Minister of Finance is made an ex-officio member of the Board of Directors, thus adopting one of the least desirable aspects of the U.S. Federal Reserve Act.

3 The reserve of the commercial banks may be in the form of a deposit with the central bank or in central bank notes—a change of considerable importance to the banks.

The bill received assent, and is now in force.

The Opposition—Liberals, farmers, and Labour—objected strenuously to private ownership and control, and many amendments were moved in the House and in Committee to have the Government appoint the directors—all or some—but all such amendments were voted down. Amendments to give the

central bank some control over the amount of commercial banks' reserves with it were also rejected. In general, the Government adhered to the general lines of its original Bill.

It is somewhat surprising, in view of the general trend, that private ownership and control of the bank was maintained so firmly by the Government, but in view of the strenuous objection of the Opposition it is possible that this matter is not yet finally settled. The Government is now concerned with getting the machinery in operation and with selecting the personnel. It is generally regarded as probable that one of the managing officers, for a while at least, will be from outside Canada. However, the bill has aroused nationalistic sentiment—one amendment was moved to have only Canadian residents as officers—and the tenure of such an appointee will doubtless be no longer than is strictly necessary. The bank should be ready to begin operations early in the new year.

C. A. CURTIS

Queen's University, Kingston

THE BANK FOR INTERNATIONAL SETTLEMENTS

Fourth Annual Report (1933–34), Basle, 1934

THIS Report, which covers much interesting ground, is now the leading authority for certain statistics, not easily obtainable, relating to gold and exchanges. It is particularly useful because it goes beyond the published statistics and ventures on certain estimates and opinions which can only be based on information not generally available. Whilst the Central Banks on the Board of the B. I. S. cannot be presumed to take any responsibility for the facts and estimates in the Report, it is reasonable to suppose that the Report will not contain any statement which the representatives of the Central Banks know to be wide of the mark.

The following pieces of information may be picked out from this year's volume as being of special interest. All the quantities are given in millions of Swiss gold francs, and the reader may be reminded for convenience of calculation that at the present time there are approximately 15½ Swiss gold francs to the £ sterling.

The gold production of 1933 is estimated at 2,648 million Swiss francs, the gold from India and China at 814 millions and the absorption of gold by the arts at 120 millions, leaving a total of 3,342 millions, or, after making certain adjustments, at least

3,240 million Swiss francs of new gold available during the year for currency reserves and hoards. The gold reserves of U S A fell by 172 millions, whilst those of 49 other countries increased by 400 millions, leaving a net increase of 228 millions in the gold holdings of Central Banks and Governments. This indicates that an aggregate of a little more than 3,000 million Swiss francs, or (say) £200,000,000, was added to hoards during the year. The Report points out that this does not take account of any increased gold holding of the British Exchange Equalisation Account, but it implies that the picture would be left substantially unaffected if allowance were made for this factor. The disappearance of gold to the value of 3,000 million Swiss francs into hoards during 1933 compares with an estimate of 500 millions for 1932. As a result of various inquiries the B I S conclude that at the beginning of 1934 the aggregate of gold in private hands amounted to at least 7,000 million Swiss francs, or more than $2\frac{1}{2}$ times the value of the current annual gold production. It appears that a considerable proportion of this sum was held in England by foreigners. The following interesting passage is worth quoting in full:

“During the 15 months’ period up to the end of March 1934 the net imports of gold to Great Britain were, according to customs statistics, equal to about 4,500 million Swiss francs, while the increase in the holdings of the Bank of England was only about 1,750 million Swiss francs, the difference may to some minor extent represent an increase in the holdings of the Exchange Equalisation Account, but by far the larger portion appears to have gone into private hoards. Indeed, out of 7,000 million Swiss francs, at which the total amount of gold hoarded has been estimated, it would appear that perhaps one third was held in England by persons who, as a rule, were non residents.”

In the event of a substantial proportion of this gold coming out of hoards, one wonders where so great a quantity would find a home. Apart from sales of gold by the East and possible reductions in European hoards, the annual output of gold has risen steadily from 1,905 million Swiss francs in 1923 to 2,648 million in 1933. There is to-day such great activity in the gold-mining world that this figure may be appreciably higher in three or four years’ time. If one then translates the quantities of the metal thus available into dollars or sterling at their present devalued levels in terms of gold, a colossal aggregate is reached. It would certainly seem that the days are over when economists could complain of the shortage of gold relatively to the currency demands for it.

The next section of the Report deals with the volume of

international short-term indebtedness A revised estimate of the liabilities of European countries and the United States to foreigners, in the shape of financial credits and deposits with Banks and similar institutions and also of ordinary commercial lending, gives the following totals

At the end of 1930	70,000 million Swiss francs
" " 1931	45,000 " "
" " 1932	39,000 " "
" " 1933	32,000 " "

Thus the liquidation of international short-term indebtedness, which has characterised and has partly caused the slump, has reduced the aggregate by more than one half Of the 32,000 million Swiss francs outstanding at the end of 1933, the BIS estimate that about 11,500 million is blocked through currency regulations, standstill agreements and similar measures The Report summarises the changes which took place in 1933 as follows

During 1933 London was the only market in which balances and other short-term assets held by foreigners increased to any appreciable extent (although there were certain increases in other countries of the sterling area), whereas in other centres the movements towards liquidation of foreign short-term liabilities continued with undiminished strength For the London market the increase was partly due to the larger holdings of sterling exchange in the reserves of the note issuing institutions within the sterling area As primary or secondary cover South Africa, Australia, India and Egypt and the four Scandinavian countries held foreign exchange the equivalent of approximately £100/110 million at the end of the years 1929 and 1930, but by the end of 1931 their holding had been reduced to £50 million (of which about one-half belonged to India), at the end of 1932 the total had grown to £75 million and by the end of 1933 to £120 million—an aggregate amount which, expressed in sterling, was larger than that before the depression

Calculated in sterling total foreign short term funds held in the London market now appear to be in the neighbourhood of the 1930 level, if calculated on a gold basis these liabilities would be somewhat less than two-thirds of the 1930 figure

In the United States the volume of short-term foreign indebtedness was reduced by about 2,000 million Swiss francs during the year, at the end of 1933 the total liability was, in dollars, only one fifth to one sixth of what it was in 1930 Of the "gold bloc" countries, France, Holland and Switzerland were subject to heavy withdrawals at different periods during the year, but it would appear that, on balance, the amount which left these three markets was less than 1,500 million Swiss francs Among the debtor countries, the short term liabilities of Germany decreased in 1933 by about 3,000 million Swiss francs (partly as a result of currency depreciation), and are now appreciably less than one-half of what they were in 1930 Austrian statistics reveal a reduction of about 700 million Swiss francs, of which 400 millions are attributable to consolidation under the arrangement regarding the Credit-Anstalt, 200 millions were repaid from the proceeds of the International Loan of 1933, and a further accounting reduction is due to the

dollar depreciation. In fact the country's short-term foreign indebtedness has been reduced to so small a figure that it was possible to free the foreign exchange market completely from the regulations which have been in force since October 1931. In other countries of Central and South-Eastern Europe, some progress has also been made towards a clearing up of frozen positions. In Hungary, the short-term indebtedness was reduced by some repayment and the consolidation of the remainder of the credits extended by this institution and several Central Banks during 1931, increased uses there for blocked balances, especially for additional exports, appear to have permitted the liquidation of current charges so that the blocked position has not augmented. An important reduction has been made in the foreign short-term commitments of the U S S R, which are reported to have declined by nearly one-half in 1933. An improved balance on short-term account is further reported from Finland, Greece and Portugal. Not only in Europe but also in other parts of the world this slow movement of liquidation has been going on. Especially remarkable have been the agreements for the defreezing of external short-term debts by the Argentine and Brazil.

On the whole these often inconspicuous but distinctly favourable results have been achieved by the efforts of the debtor countries working at their own problems, it is only in exceptional cases (e.g. Austria and the Argentine) that new loans and credit arrangements have contributed. As, however, the improvement which has been taking place in the position of many countries normally in need of foreign capital continues, the way may be opened to a gradual renewal of international lending, which would again promote trade and facilitate agreements with regard to the settlement of outstanding financial commitments.

It has seemed worth while to quote the above passage at length since it describes a remarkable degree of liquidation going on behind the scenes, which must represent an important measure of progress towards normal conditions.

One other feature of the year deserves mention. The tendency already in existence for Central Banks to abandon the practice of holding their reserves in the form of foreign exchange made further progress, being the counterpart of the reduction of international short-term indebtedness described above. The Bank of France reduced its foreign exchange holding during 1933 from 4,200 million francs to less than 1,000 million. In Italy there was a reduction from 1,300 million lire to 300 million. In Holland the sterling holding of the Nederlandsche Bank finally disappeared during the summer. In Czechoslovakia the whole of the primary reserve was converted into gold in February 1934. The National Bank of Austria converted the whole of its cover exchange into gold in December 1933. The foreign devisen held by the Reichsbank fell during the year from Rm 115 million to Rm 9 million. Only in the sterling area was there a movement in the opposite direction, the British Dominions and India, and Sweden and Finland increasing their holdings of foreign exchange, particularly of sterling. Thus the decline in the use of foreign exchange reserves by Central Banks was an important factor in

the absorption of the new supplies of gold. This, however, is a phenomenon which cannot recur unless the same tendency spreads to the sterling area.

The Staff of the Bank for International Settlements are much to be congratulated on the high interest of their Report. It is to be hoped that they will persevere in the regular collection and even extension of these vitally important statistics, which it is so difficult for the outsider to obtain in any reliable or comprehensive form.

J M KEYNES

OFFICIAL PAPERS

Commercial Banks, 1925-1933 League of Nations (London
Allen and Unwin Pp 336 10s)

THE Economic Intelligence Service of the League of Nations has just published a new "Memorandum on Commercial Banks," containing a summary of the recent banking history and information on the financial evolution of some forty countries. The book deals with the period of prosperity from 1925 to 1929 and with the period of depression from 1930 to 1933. The banking statistics given have been adapted to a common balance sheet form to facilitate international comparisons.

An introduction gives an account of the general tendencies and a bird's-eye view of recent banking experience in the world as a whole. In the commercial banks of the forty countries covered by the study, the increase in deposits during the "boom" period and the decrease during the depression are measured. Apart from the decrease in deposits, a falling-off in the efficiency with which existing bank credits were used is shown by figures for the velocity of circulation of bank deposits. A large part of the credit expansion during the boom period in the United States took the form of loans on security collateral—a type of expansion that represented the offsetting of a short-term claim by a long-term asset. The subsequent break-down of the security market in the United States is partly explained by the forced sale of securities by the banks in order to meet sudden withdrawals of deposits. Statistics are given showing the increasing tendency in certain Central European countries during the reconstruction period (following the legal stabilisation of currencies) for individuals to place savings on deposit with banks instead of

investing them directly, the banks frequently made long-term advances with these funds and with those raised through their foreign short-term borrowings

In the first stage of the depression—until the financial crisis of 1931—it is shown that there was an almost universal tendency for bank credit to become frozen. The financial crisis itself is then traced in detail and the repercussions of the *Creditanstalt* collapse in May 1931 on the banking position in most important countries (creditor as well as debtor) are outlined. Details are given of the most important standstill agreements and figures are quoted to show the extent to which the foreign short-term indebtedness of certain countries has been reduced since 1930.

The secondary consequences of the financial crisis in the form of a general search for liquidity on the part of banks are dealt with, as well as the increase in cash ratios, larger holdings of Government securities, and a very heavy contraction of ordinary commercial credits. Deposit figures given for 1933 suggest that in the course of last year the contraction tended to subside in many countries and in certain cases there was even an expansion in bank credit.

In addition to examining the recent tendency of commercial bank profits, the introduction deals with money rates during the depression and the recent cheap money policy of various countries, the extent to which official and market rates of discount have been lowered in different parts of the world, the relationship of these reductions to the long-term yield on capital, and the rates charged by banks on loans to customers are also considered.

The last section of the introduction is devoted to an examination of the intervention of states in the field of commercial banking in recent years. Details are given of the direct financial assistance granted by Governments to banks to avert collapse or to aid in their reorganisation, of the new legislation to which commercial banks in different countries have been subjected, and, finally, on the recent growth of central banking in South America and the British Dominions.

The main part of the book is devoted to the examination of the banking situation of some forty countries. The most complete are those dealing with the United States of America and Germany. Among the subjects dealt with in the chapter on the United States are the structure of the American banking system, the increasing extent to which the banks provided for the long-term capital requirements of industry during the boom period, the

sharp contraction of credit during the financial crisis of 1931-32, the growth of currency hoarding and bank failures, the activities of the Reconstruction Finance Corporation, the banking crisis of February-March 1933, and the reopening of the banks, the subsequent return of currency from circulation, the open-market operations of the Federal Reserve and the accumulation of large surplus cash reserves by the commercial banks

Amongst other subjects, the chapter on Germany deals with the foreign short-term borrowings of the banks and with the participation of the State in the reorganisation of the big Berlin banks and certain provincial institutions

The special problems which have affected banking evolution in other countries from 1925 to 1933 are set out in individual chapters.

The "Memorandum on Commercial Banks" is an extremely useful document to all interested in banking and international financial questions
(Communicated)

International Trade Statistics

THE International Bureau of Commercial Statistics of Brussels has recently issued its tenth annual summary of the trade statistics of twenty different countries. This work, which was begun as a result of an international convention, was first published in 1922. Its aim is to co-ordinate the many trade statistics published by various governments on a uniform plan so that they may be readily compared.

Articles entering into international exchange are classified (in French) in five categories and an exhaustive dictionary and index to them is provided in French, English, German and Dutch.

The statistics themselves are tabulated in four groups in which the distribution of imports and exports are shown under the name of the importing and exporting countries and under the name of the articles themselves, while a general summary is provided indicating the relative importance of different countries assessed according to the amount of their international trade. Values are shown in the currencies of each country and are in addition converted in each case to a common gold standard.

H.M. Stationery Office has a few copies of this work of reference surplus to the requirements of the Public Service, which have therefore been placed on sale at Adrastral House, Kingsway, London, W.C. 2, at the price of 5s. net. Post free, 5s. 9d.

(Communicated)

CURRENT TOPICS

THE following have been admitted to membership of the Royal Economic Society —

Albu, V C	Dyson, P M	Lloyd, W. H
Appel, H	Eade, D H	Maas, W
Arakie, R	Earnshaw, R T	McAllister, N C
Archibald, R D	Ely, O	McCorquodale, D
Beech, T	Emmanuel, A	Mackay, R W G
Bennett, G D	Evans, T	Major, T G
Berry, G V	Fish, Prof Marion	Mdledle, B B
Bolza, Dr H	Fletcher, J	Michelmores, L J
Boustead, P G A	Friend, Capt E A	Miller-Williams, E B
Briggs, G D	Garino-Canina, Prof	Minakshisundaram,
Brown, N	A	C D
Brown, W McK	Goldman, S	Mitchell, T E
Bryce, R B	Goldschmidt, R W	Morgan, R
Buttle, F W	Golah, S E I	Morgan-Webb, Sir
Cauter, T	Gomperz, E	Charles
Chamberlain, M	Goopta, H	Nahata, S
Chapple, K. G	Gould, B W	Nambiar, T N
Chaudhuri, Rai H	Guaresti, Dr J J	Neat, C P G
Chavan, J U	Gupta, N C	Needham, D
Clarke, R W B	Haddow, D F	Neumann, Dr F
Clerehugh, R	Hadfield, T L	Nicoll, J R
Cobbold, C	Haji, A	Nolan, N J.
Connor, J E	Hamburger, S.	Norris, T C
Cownie, J T W	Herd, A G	Norris, W. G
Croome, Mrs H M	Honhoff, R	Osterritter, A J
Crouchley, A. E.	Hore-Belisha, L	Parekh, R C
Crowder, Dr W F	Hunt, S C	Pargeter, A H.
Curtis, Miss M	Hunter, S	Paterson, J
Curtis, T S	Jessop, W G	Patrick, C W.
Dallas, K. M	Johnson, W E	Perry-Keene, A.
Denny, C. P	Johnstone, F	Phillips, J G
De Silva, G M W.	Kelly, E O	Plumridge, H F P
De Sztem, Prof	Kennedy, A	Podmore, R F
E S	Laidler, V C	Porchat, Dr A
Dickson, R H B	La Nauze, J A	Pumpiansky, Dr L
Dieulefait, C E	Lane, W H H	Pye, J
Dixon, W F S	Lanzillo, Prof A	Raffetti, Dr C
Downes, C E	Lewis, J	Rai, G
Duncan, L C	Lumbrick, S F	Rajagopalan, V K

Randall, R J	Singh, R	Thurn, Count M A
Rayner, A	Skinner, N L C	Tverdokhlébov,
Regan, A C	Smedley, W R	Prof V
Robinson, A	Smith, G	Van Deurs, G H
Robinson, A R	Smith, H D	Vincent, H H
Rodgers, W L	Southgate, C	Walker, W J
Rogers, W A	Spengler, J J	Westby, G
Rosenstamm, B	Springer, A	Wheeler, K H T
Ross, J W.	Springett, E F	Whiteman, L W
Russ, Seth.	Srinivasan, N	Williamson, L A
Sandhu, H S	Srinivasan, Narayan	Wood, Dr G L
Saunders, C J	Stern, Dr E	Wood, H W
Schmalz, Prof C N	Stiller, R B	Wythe, G
Sedgley, W H	Sutor, J A	Zanardi-Lamberti,
Sen, N.	Taggart, J H S	M
Senior, E P	Tait, J A	
Shah, H N.	Tanner, W J H	

The following have compounded for life membership of the Society .—

Bhattacharyya, A Kanta	De Michelis, Prof G
Blumer, George Frederick	Glover-Clark, Richard
Castellino, J E	Hurren, James

The following have been admitted to Library membership of the Society —

Banco de Mexico
 Bates College, Maine
 Kammer fur Handel Gewerbe und Industrie, Wien
 Ministry of Foreign Affairs, Nanking
 Technical College, Derby
 Vaughan College, Leicester

PROFESSOR LORIA writes as follows

I record with great regret the death on May 2 at the age of 44 of Professor Vincenzo Porri, of the Superior Institute of Commercial Studies in Turin. An able writer, well versed in the economic literature of many countries and especially competent on questions of money and banking, he added to knowledge not only by numerous articles in economic journals but by the publication of the following works

- 1 Lo sviluppo delle imprese assicuratrici in Italia nei rami elementari Torino, 1928
- 2 Corso di politica economica internazionale Torino, 1930
- 3 Principi di scienza economica, Vol I Torino, 1932
- 4 L'evoluzione economica italiana nell' ultimo cinquantennio Roma, 1926
- 5 L'equilibrio economico nel Veneto alla vigilia della guerra Roma, 1921
- 6 Cinque anni di crisi nel Veneto, 1914-18 Roma, 1922

These important books led to high hopes for his scientific future, unhappily brought to an end by his premature death. But he leaves in the minds of his friends and colleagues a lasting impression of admiration and regret.

RECENT PERIODICALS AND NEW BOOKS

Journal of the Royal Statistical Society

- PART II, 1934 *The "Economist" Index of Business Activity* G CROWTHER *Exchange Stability versus Internal Price Stability* J H JONES *Wholesale Prices in 1933*

Economica.

- MAY, 1934 *Twelve Months of American Dollar Policy* T E GREGORY *The "Theory of Unemployment" of Professor A C Pigou* R G HAWTREY *The Economic Aspects of Copyright in Books* A PLANT *A Reconsideration of the Theory of Value Part II* R G D ALLEN *The Movement of Labour into South-East England, 1920-32* B THOMAS *A Note on Banking Policy and the Income-Velocity of Circulation of Money* J C GILBERT

International Labour Review

- MAY, 1934 *Rationalisation and the Employment and Wages of Women in Germany* J GRUNFELD *Workers' Education in Great Britain* J H NICHOLSON *The International Regulation of Hours of Work on Railways* *Overtime and the Economic Depression*

International Labour Review

- JUNE, 1934 *The Reduction of the Working Week in Germany* *The Economic Depression and Public Health* P LOPES *The Codes of Fair Competition and Women's Wages in the United States* *The Results of the Netherlands Labour Disputes Act from 1924 to 1934* J G SCHLINGEMANN

The Manchester School

- VOL V, No 1 *The American Experiment* T E GREGORY *The Relevance of Political Economy* G W DANIELS *American Raw-Cotton Policy* H CAMPION *An Aspect of the Problem of Unemployment* J STAFFORD

Sociological Review

- JULY, 1934 *Economic Science and Contemporary Economic Policy* G C ALLEN *Migration and Cheap Land* H HEATON *The Psychological Analysis of War* H GOLDHAMER *The Sociological Interpretation of Political Ideas* WERNER FALK *Divorce in England and Wales* D V GLASS

Eugenics Review

- JULY, 1934 *Eugenic Influences in Economics* SIR JOSIAH STAMP *Complex Determinants of Amentia* L S PENROSE *Modern Views of Human Mind Disorders* R J A BERRY

The Human Factor

- JULY-AUGUST, 1934 *Tests for Motor Drivers* G H MILES and D F VINCENT *The Human Factor in Accidents* C S MYERS *The Selection of Colour Workers* W O'D PIERCE

Economic Record

- JUNE, 1934 *Australian Policy in the Depression* R G HAWTREY *Federation and Western Australia* E L PIESSE *The Historical Role of Trade Unionism* G V PORTUS *Some Aspects of Depression* *Psychology in New Zealand* T A HUNTER *Protection and the Price Level in Australia* C H P GIFFORD *Railway Transportation in New Zealand* H VALENTINE

South African Journal of Economics

- JUNE, 1934 *The Future of Gold in Relation to Demand* E CANNAN *Business Cycles in South Africa, 1910-1933* C G W SCHUMANN *Witwatersrand Mining Policy the Dominant Factors* J M M EWING *Government and Economic Control* E WHITTAKER *Report of the Commission on Agricultural Co-operation* T H KELLY

Quarterly Journal of Economics

- MAY, 1934 *The Periodogram of American Business Activity* E B WILSON *A British Experiment in the Control of Competition the Coal Mines Act of 1930* A F LUCAS *Doctrines of Imperfect Competition* R F HARROD *British and American Exchange Policies the British Experience* S E HARRIS *Some Reflections on "The Nature and Significance of Economics"* T PARSONS *Empirical Tests for Price Theories* Fisher, Foster and Catchings, Keynes R M WALSH

Review of Economic Statistics

- APRIL, 1934 *General Economic Conditions in the United States* (Editorial) *Inflationary Aspects of Recent Banking Development* (Editorial) *British and French Economic Conditions* (Communicated) *A Year of Banking and Monetary Policy* S E HARRIS *Wheat, Wheat Policies, and the Depression*

American Economic Review

- JUNE, 1934 *On the Structure and Inertia of Prices* C SNYDER *Currency Inflation* W E SPAHR *Economic Science in Recent Discussion* F H KNIGHT *Output of Work and Economic Well-being* E W ZIMMERMANN *Forecasts of General Price Level* E GRAUE *Currency of Canada* J HOLLADAY

Journal of Political Economy

- JUNE, 1934 *Some Considérations on Unemployment Insurance in the Light of German Experience* O NATHAN *National Social Insurance in France* W OUALID *Bases of State Taxation of Domestic Stock Insurance Companies* K M WILLIAMSON *Egypt's Balance of Trade* C BRESCIANI-TURRONI *The French Solution for the Railway Problem* H E DOUGALL

Annals of the American Academy of Political and Social Science

- MAY, 1934 *The Ultimate Consumer, a Study in Economic Illiteracy*
 A consideration of consumers as a special interest group, with particular reference to standards, prices, and the actual and potential means of consumer protection Edited by J G BRAINERD

Annals of the American Academy of Political and Social Science

- JULY, 1934 *The World Trend toward Nationalism* Different aspects of the problem treated by various authors

Wheat Studies (Stanford, California).

- MAY, 1934 *World Wheat Survey and Outlook* Up to the date of this survey developments in the world wheat situation had not been encouraging for early emergence from surplus conditions World wheat stocks on April 1st were no more than 35,000,000 bushels below last year's peak The recent drought through most of the Northern Hemisphere has probably changed matters

Révue d'Économie Politique

- MARCH, 1934 *La théorie de l'intérêt, d'après Irving Fisher* A LANDRY
La dévaluation de la couronne tchécoslovaque A BASCH.
Quelques nouvelles observations statistiques sur le chômage H. GUITTON
La crise viticole en Champagne G FEYRET

Journal des Économistes

- APRIL, 1934 *Vers l'équilibre par les économies* E PAYEN
Corporatisme et Politique F GAUCHERAND
 MAY, 1934 *Vers la réforme fiscale* E PAYEN
L'Industrie automobile R J PIERRE
 JUNE, 1934 *La Réforme fiscale* E PAYEN
Espagne et Portugal. R J PIERRE

Révue de L'Institut de Sociologie

- APRIL, 1934 *L'Idée d'Association dans la Doctrine coloniale de la France* R MAUNIER
Le Rôle social de l'Écriture et l'Évolution européenne E HAJNAL
La Méthodologie des Activités pratiques et l'Étude des faits sociaux G HOSTELET

Schmollers Jahrbuch

- APRIL, 1934 *Die Stufenfolge der Menschheitsgeschichte als Ausleseerscheinung* K BREYSIG
Der Volkswirtschaftsbegriff als Illusion des Liberalismus K PINTSCHOVIVUS
Der australische Versuch autoritärer Lohnpolitik W NEULIG
Die Bevölkerungsentwicklung in Westpreussen und Posen, und die deutsche Abwanderung. P H GERAPHIM

Weltwirtschaftliches Archiv

- MAY, 1934 *Möglichkeiten der Umorientierung des jugoslawischen Aussenhandels* O VON FRANGES
Die Entwicklung des Aussenhandels der Niederlande nach dem Kriege W L VALK
Die Erfüllung des russischen Fünfjahrplanes W LEONTIEF
 It is argued that owing to the absence of a planned balance-sheet, to super-industrialisation, and overstrained collectivisation, the

result is contrary to the plan. The industrial programme has been fulfilled to about two-thirds. Various industries are described in detail. The financing of the plan has been carried through at the cost of the standard of living. *Interventionen am Geldmarkt als Mittelstaatlicher Konjunkturpolitik* G. SCHMOLDERS. On the basis of American experience, it is discussed how far an open-market policy can in other countries be used as an independent instrument of regulation. It is argued that this policy of the Federal Reserve Board owed it temporary success to some special conditions, especially to its relation to a thorough control of the Banks. The policy is rather an auxiliary than an independent instrument.

- JULY, 1934 *Allgemeine Grundlagen des Kombinationsproblems* R. KERSCHAGL. *Die Politik der mengenmassigen Einfuhrregulierung* K. HAFNER. *Die Volkswirtschaftliche Bedeutung der Neuschaffung deutschen Bauerntums* H.-J. SERAPHIM. *Die allgemeinen Lehren des Faschismus und die korporative Wirtschaft* L. GANGEMI. *Unternehmensvertrag und Zins als Faktoren des Aktienmarkts* O. DONNER. *Der Weltluftverkehr im Jahre 1932-3* H. POLLOG.

Zeitschrift fur Nationalökonomie

- JUNE, 1934 *Der Einfluss der Kaufkraftregulierung auf den Konjunkturverlauf* J. TINBERGEN. Distinction is made between exterior forces causing disequilibrium and a mechanism propagating it. Four schemes, involving different assumptions with regard to the length of the production period and influences of wage changes, etc. on profits, are considered. A mathematical treatment shows what movements occur when no regulation at all or when stabilisation of the amount of purchasing power spent in the consumables market is adopted. *Kapital und Kapitalismus* FRIEDRICH WALTER. A non-capitalistic economy does not exist. There are only epochs of different economic liberty. *Schutzzölle bei unvollkommener Konkurrenz* G. LOVASY. Under conditions of imperfect competition average costs will be falling at the margin. It will therefore be possible by protection to secure internal and external economies, and a reduction of price. *Bemerkungen zur Wertaspekt der moderner Verteilungstheorie* K. STEPHANS. *Preise und Produktion* J. AKERMAN.

Jahrbucher fur Nationalökonomie und Statistik

- JULY, 1934 "Reine" und "Politische" Wissenschaft in der Lehre von der Staatswirtschaft W. FLEUGELS. *Konjunkturbeeinflussung durch die Notenbank* R. STUCKEN. *Deutsche Industriepolitik, 1933* G. MACKENROTH.

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De Economist

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Bohm-Bawerk are rather by-products and consequences of this principle. In particular the third ground given by Bohm-Bawerk has little significance. Interest would occur without capital organisation, and machines in themselves would not produce interest. The concept of Capital also arises out of the concept of value. Capital is defined as the "value attributed to goods on the ground of our foresight for the future." There is a lengthy discussion of Capital and of Bohm-Bawerk's views, particularly relating to the third ground for interest.

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DECEMBER, 1934

THE FUTURE OF RAIL TRANSPORT ¹

ONE hundred years ago the "calamity of railways," as Sir James McAdam termed it, fell on the existing means of transport. Though the Stockton and Darlington Railway had been opened for traffic in September 1825, and the locomotive had been known since 1804, it was still doubtful whether locomotives could be used on lines with heavy gradients. It was the success of Stephenson's "Rapid" and Hawthorn's "Comet" on a section of the Newcastle and Carlisle railway in March 1835 which set the seal on their success, and led railway promoters to think no longer of horses and stationary engines as the tractive power on the new roads. Three years later locomotives were working the whole length of the line from Newcastle to Carlisle, and an era of rapid railway development began.

The effect of railway competition on the canal companies, the stage coaches, and the road carriers of that time is well known. At first slowly, yet in the end surely, and in spite of severe reductions in their tolls, the canals lost all but the slow and bulky traffic. The effect on the turnpike roads was no less severe. Horse-drawn traffic, it is true, not only survived the early days of railways, but actually increased, though long-distance journeys by road, whether of passengers or goods, practically ceased. As Prof Clapham says, "Carts and cabs increased, but coaches and posting-houses decayed. Journeys behind horses multiplied, but long journeys behind horses stopped. The tragedy was repeated on each trunk route as the sleepers and metals were laid along it. The effect in every case was instantaneous and inevitable."

To-day it is the railways whose established position is assailed. Competition by road has taken on a new form, coastwise traffic

¹ Presidential Address before Section F of the British Association, Aberdeen, 1934.

has increased, the reliability and efficiency of the internal combustion engine have opened up the air for a third competitor

In view of these developments in transport, what is the future position of the railways likely to be? Are they to be displaced from their position as the chief mode of transport, to which the rest are supplementary, and to be relegated to a position of secondary importance in the transport system of the twentieth century? It is a question of far-reaching importance. I agree with Sir Josiah Stamp that of the country's domestic problems at the present time none presses more gravely on the nation than the position and future outlook of the railway system. The number of workpeople it employs, the amount of capital invested in it, the increasing difficulty of providing for and controlling the traffic on the roads, the vital importance of securing for the community the most economic and efficient system of transport that our present means and knowledge permit, combine to make it one of the most pressing problems that we have to face. Nor is it a situation confronting this country alone. A similar position has arisen in practically every country in the world.

In view of these considerations, and quite apart from the fact that my own studies have mainly been in the subject of transport, I felt that I could not choose a subject more appropriate for a Presidential Address to this Section, and for a city so dependent on transport as Aberdeen, than the future of rail transport.

If justification for my choice were needed, I think I could find it in the Presidential Address of my predecessor, Henry Sidgwick, when the British Association last met in Aberdeen forty-nine years ago. The subject of that address was the "Scope and Method of Economic Science," and I venture to think that my own paper comes well within the field which he there mapped out for economic thought.

It will be well at the outset to examine briefly the position of the railways of this country in the post-war years. For this purpose some statistics are essential, though I will endeavour to reduce them to the minimum.

The following table gives the revenue earned by the four grouped railway companies and the percentage change for the chief of the post-war years. The corresponding figures for 1913 are given, though in comparing the later years with 1913 it is, of course, necessary to bear in mind the change which has taken place in the value of money.

TABLE I

Railway Revenue Receipts of the Four Grouped Companies

Year	Passengers		Mails and Parcels		Mer- chandise		Coal and Minerals		Live Stock		Miscel- laneous	Total	
	£m	%	£m	%	£m	%	£m	%	£m	%	£m	£m	%
1913	41.3	—	9.1	—	30.6	—	31.0	—	1.2	—	0.9	111.1	—
1923	68.9	100	17.4	100	51.2	100	51.2	100	2.0	100	1.9	107.6	100
1924	70.2	102	17.9	87	49.6	97	52.4	97	2.0	100	1.8	103.9	99
1925	68.9	100	17.3	99	49.6	97	49.9	92	1.9	95	1.8	100.4	97
1926	60.6	88	16.8	97	45.6	89	35.9	61	1.8	90	1.6	102.3	83
1927	63.5	92	17.6	101	52.1	102	53.1	98	2.0	100	1.6	109.9	97
1928	62.1	90	17.4	100	49.4	96	48.9	90	1.9	95	1.7	101.5	93
1929	60.0	87	17.6	101	49.0	96	52.7	97	1.8	90	1.7	102.8	93
1930	57.0	83	17.5	101	45.5	89	49.2	92	1.8	90	1.6	102.6	88
1931	52.4	76	16.8	95	41.8	82	44.5	82	1.6	80	1.5	105.5	81
1932	49.2	72	15.9	91	36.8	71	40.7	75	1.4	70	1.4	105.3	74
1933	49.4	72	10.0	92	36.6	71	40.7	75	1.2	60	1.1	105.3	74

The form of railway accounts was amended in 1928, and though the figures for 1927 have been recomputed on the new method, it has been possible only to make approximate adjustments for the earlier years. Nevertheless, if not pressed too far they may be used for comparative purposes.

Railway revenue has, it will be seen, fallen by no less than 26 per cent since 1923, and the fall has been most marked since 1929. Owing to the General Strike and the coal dispute, 1926 was, of course, an exceptional year. The fall has been more severe in the case of passenger traffic and merchandise than in that of coal and minerals, though the revenue from the carriage of live stock also shows a big decline. The revenue from mails, parcels, and goods by passenger train has been surprisingly well maintained.

Compared with pre-war years the expenditure of the railways shows a considerable increase, due in part to the increase in the cost of materials, but chiefly to the rise in the level of railway wages, which in 1932 were 117 per cent higher than in 1914, or allowing for the rise in the cost of living, 51 per cent above the pre-war level. But since 1924 the expenditure shows a considerable reduction, partly owing to the lower cost of materials, partly owing to the numerous economies effected by the companies in their mode of working since 1923, and partly, of course, due to diminished traffic.

The changes in expenditure and the net revenue of the companies, both from railways proper and from their ancillary undertakings, such as canals, hotels, and docks, are shown in the next table.

It will be seen that railway expenditure has been reduced almost in proportion to railway receipts. The net railway revenue

TABLE II
Expenditure, Receipts, and Net Revenue of the Four Grouped Companies

Year	Railway Expenditure		Railway Receipts		Railway Net Revenue		Revenue from other Undertakings, including Joint Lines		Total Net Revenue	
	£m	%	£m	%	£m	%	£m	%	£m	%
1913	72 0	—	114 1	—	42 1	—	3 1	—	45 2	—
1923	156 9	100	195 6	100	38 7	100	6 9	100	45 6	100
1924	157 7	101	193 0	99	35 3	91	6 0	87	41 3	91
1925	156 0	99	189 4	97	33 4	86	5 2	75	38 6	85
1926	145 2	93	162 3	83	17 1	44	3 5	51	20 6	45
1927	151 8	97	189 9	97	38 1	98	4 5	65	42 6	93
1928	145 2	92	181 5	93	36 3	94	4 7	68	41 0	90
1929	143 9	91	182 8	93	38 9	101	6 1	88	45 0	99
1930	139 5	89	172 6	88	33 1	86	4 6	67	37 7	83
1931	128 5	82	158 5	81	30 0	78	3 4	49	33 4	73
1932	121 4	77	145 3	74	24 0	62	2 5	36	26 4	58
1933	119 4	76	145 3	74	25 9	67	2 9	42	28 8	63

of the four grouped railway companies has fallen to 67 per cent of the amount in 1923, whilst the net revenue from all sources has fallen to 63 per cent of the 1923 amount

Similar declines in receipts and expenditure are to be observed in most of the European railways, as in those of the United States of America, as the following table shows

TABLE III
Summary of Receipts and Expenditure Selected European Railways, 1929-1933¹

Railway or Country	Currency		1929 thousands	1930 thousands	1931 thousands	1932 thousands	1933 thousands
Belgian National Railway	Belgian francs	Rec	3,546,695	3,528,540	3,090,730	2,451,978	2,329,917
Czecho-Slovak State Railways	Czechoslovak crowns	Exp	3,066,823	3,208,358	3,023,944	2,620,480	2,842,960
		Rec	4,888,543	4,628,512	4,362,972	3,490,352	3,135,516
		Exp	4,447,197	4,521,131	4,183,938	4,043,031	
France Main Line Railways	French francs	Rec	16,110,042	16,032,070	14,584,578	12,428,809	11,707,912
German Railway	Reichsmarks	Exp	12,669,028	14,159,737	13,902,798	12,797,349	12,197,912
		Rec	5,353,834	4,570,817	3,848,667	2,934,318	2,915,100
Gt Britain Main Line Railways	Sterling	Exp	4,499,496	4,090,353	3,622,471	3,001,084	3,068,000
Italian State Railways	Lire	Rec	182,777	172,618	155,496	145,342	145,281
		Exp	143,698	139,483	128,541	121,336	119,855
Polish State Railways	Zloty	Rec	4,980,704	4,600,066	3,853,470	3,345,882	3,055,854
		Exp	4,379,832	4,124,730	3,578,490	3,218,465	3,190,138
Swedish State Railways	Swedish crowns	Rec	2,680,313	2,655,290	2,382,009	1,975,811	1,907,456
		Exp	2,688,422	2,732,332	2,542,506	2,069,390	1,922,236
Swiss Federal Railways	Swiss francs	Rec	1,596,906	1,458,874	1,293,998	1,009,126	868,000
		Exp	1,413,894	1,331,520	1,187,036	936,014	810,700
		Rec	208,130	201,580	181,230	166,140	166,140
		Exp	158,870	157,370	156,640	158,290	150,170
		Rec	431,357	420,546	389,450	342,953	335,844
		Exp	280,382	291,420	283,282	273,801	262,566

¹ By courtesy of Railway Research Service
Not yet available

The railways selected have been chosen to show how the serious fall in receipts has affected countries with widely differing characteristics. It will be noticed that the fall in receipts on the British railways, serious as it is, is not so great as in most of the European countries, but it should be remembered that in Great Britain railway receipts had not, as in these countries, been rising fairly steadily up to 1929.

The effect of the changes in receipts and expenditure on British railways has been very marked. First in the numbers of staff employed. In 1921 the number of staff on the railways comprised by the four grouped companies, including the Railway Clearing House, was 735,870. This had fallen to 681,778 in 1923, to 642,137 in 1929, and to 615,592 in 1931.

The effect on railway dividends has, of course, been even more marked. In 1913, the net revenue earned by the companies within the groups represented 4.41 per cent on all capital. The return was 4.40 per cent in 1923, 3.96 per cent in 1927, 4.17 per cent in 1929, 3.48 per cent in 1931, 2.30 per cent in 1932, and 2.68 per cent in 1933.

The stocks chiefly affected are, of course, the ordinary stocks. The average earnings on ordinary stocks were in 1913, 5.55 per cent, in 1929, 3.27 per cent, in 1931, 0.95 per cent, in 1932, 0.57 per cent, in 1933, 0.77 per cent.

The causes of this decline in railway traffic and railway revenue are not far to seek. They are industrial depression, the contraction of international trade, and the competition of roads, and to a lesser extent of coastwise and air transport.

In the case of passenger traffic it is probable that a relatively small part of the decrease is due to economic depression, and that the bulk of it is due to road competition, including that of the private motor-car. Thus if we compare 1929, a year of relatively good trade, with 1923, in which trade was definitely not as good, we find a marked diminution both in the total number of ordinary passengers and in the total receipts from them. The figures are shown in the next table.

Four grouped companies

	1923	1929	1929 as percentage of 1923
Total number of ordinary passengers	633.4 m	589.8 m	93
Total receipts from ordinary passengers	£55.4 m	£48.3 m	87

Thus there was a decrease of 43·6 millions in the number of such passengers, and of £7·1 million in the receipts from them.

Since 1929 road competition has become increasingly severe. It would seem fair to estimate, therefore, that in 1933 at least 15 or 16 per cent of the total decline of 28 per cent since 1923 is due to road competition, giving a loss of at least £11 million due to this cause.

It is much more difficult to assess the loss of railway goods traffic due respectively to bad trade and road competition. Some indication may be obtained from a comparison with the Index of Production and the Quantitative Index of Imports compiled by the Board of Trade. These figures have been available since 1924, and between that date and 1930 the Index of Production of manufacturing industries rose from 100 to 106·3, while during the same period the Quantitative Index of Imports rose from 100 to 111·4. If we make the assumption that in the absence of road competition the merchandise and live-stock traffic receipts of the railways would have increased in approximately the same proportion, say by 6 per cent between 1924 and 1930, these receipts would have increased from £51·6 million to £54·7 million in 1930. In 1930, however, they actually amounted to no more than £47·3 million, representing, if this argument is valid, a diversion of £7·4 million. In 1927 there was a general increase in freight rates of 7 per cent, and assuming that this did not cause a diminution in aggregate revenue, this would mean that the loss was the more significant. Since then, however, many rates have had to be reduced.

Taking the passenger and merchandise traffic together, the total loss of net revenue to the railways due to road competition between 1923 and 1930 may be estimated at not less than £18 million.

In order to view the position in true perspective, it is necessary to digress a little at this point and consider the growth of road transport and the causes of its development from the side of the motor transport industry.

Since the war the development of motor transport has been remarkable. Though there were some 307,000 motor vehicles in use in Great Britain in 1914, the number had fallen to 189,000 in 1918, owing to the restrictions of the war period. The railway strike of 1919, however, greatly stimulated the use of motor vehicles and by 1920 the number in use had grown to 551,000. By 1923 it had soared to 1,131,000. In 1928 it was just over 2 millions, and it reached 2½ millions in 1933.

Up to 1925 the most numerous category of vehicles was the motor-cycle, but since that year the number of private motor-cars has exceeded the number of motor-cycles. Motor-cycles increased in number continuously from 373,000 in 1921 to 705,025 in 1929, but in 1933 they had decreased to 540,594.

The growth in the number of private motor-cars as at August 31 in each year is shown in the following table

1921	242,500	1928	877,277
1922	314,769	1929	970,275
1923	383,525	1930	1,042,258
1924	473,528	1931	1,076,128
1925	579,901	1932	1,118,521
1926	676,207	1933	1,195,882
1927	778,056		

The reduced horse-power tax on private cars, which comes into force in 1935, will no doubt serve further to stimulate the use of such vehicles.

There has been a similar continuous increase in the number of goods-carrying vehicles, despite the ups and downs in national prosperity. In spite of the trade depression after 1929 and the uncertainties caused by the publication of the Salter Report, the number of goods vehicles has continued to increase. The next table gives in each year the number of such vehicles in use in Great Britain as at November 30, the number licensed being greatest in this quarter of the year.

1923	183,250	1929	325,700
1924	212,300	1930	340,500
1925	234,200	1931	352,500
1926	259,000	1932	360,200
1927	282,800	1933	379,600
1928	301,500		

The last category of vehicle to which it is necessary to direct attention is that of Hackney Carriages, comprising taxi-cabs, motor-buses, and motor-coaches. In this class a noticeable feature has been the decline between 1930 and 1932. This is to be explained by the operation of the Road Traffic Act, 1930, which imposed restrictions on the use of motor buses and coaches. The number of hackney vehicles in use in each year in Great Britain as at August 31 is given in the next table.

1921	82,800	1928	93,429
1922	77,614	1929	95,798
1923	85,965	1930	98,865
1924	94,153	1931	86,208
1925	98,833	1932	84,667
1926	99,077	1933	85,352
1927	95,676		

According to statistics contained in the Reports of the Traffic Commissioners the number of passengers carried in public service

vehicles was 5,269½ millions in 1931 and 5,418½ millions in 1933, or approximately more than six times the number of passenger journeys by rail including season ticket holders. The average receipt per passenger journey by road was, however, only 2 66*d* in 1931, and 2 57*d* in 1933. The total passenger receipts were £58 4 million in 1931, and £57 9 million in 1933.

Apart from such factors as the exhaustion of the railways after the war, and the industrial disputes of 1919 and 1926, the striking growth of road transport has been due to a variety of factors, such as its mobility, flexibility, and convenience, a succession of technical improvements, the fall in the price of fuel and other costs (petrol cost 2*s* 11½*d* in May 1921, but in 1934 it cost only 1*s* 5*d* despite the addition of a tax of 8*d* a gallon), and its lower charges for certain traffics.

The great convenience of motor transport has been a most important factor in the case of the private car. The advantages of having a vehicle which can be used when, where, and as the owner desires are obvious. To commercial travellers, salesmen, etc., the motor-car is a most valuable help. Naturally this development has robbed the railways of much traffic which would otherwise have come to them, but which they are unlikely to regain. The effect is most obvious in the case of first-class traffic. There must also be a considerable loss of traffic to the railways during holiday times. On the other hand, there is no doubt that a big proportion of road traffic is new traffic which would not have developed without the motor-car.

The competition of the motor-bus and motor-coach has been most severe on local journeys, short-distance travel, and cross-country routes, where the railway station is not so near, or the services less frequent, or the timings not so good. In these circumstances, partly through greater convenience, partly owing to lower fares, the motor-bus has established a definite ascendancy and it will be no easy task for the railways to regain much of this traffic.

On the goods side the competition of road transport with rail has become intensified during recent years. Again, this competition is partly a matter of the convenience of road transport, but it is chiefly a question of charges, especially in the case of goods placed in the higher classes of the general railway classification. Road hauliers have been able to quote low rates for the higher grades of traffic without any statutory obligation to carry commodities in the lower grades, such as ores, iron, coal, limestone, or road metal. Knowing both the standard and the exceptional

rates of the railways from any station to any other, they can undercut the railways with a lower rate, and frequently base their charges on the existing railway rate

Mr W V Wood, a vice-president of the London, Midland, and Scottish Railway, has recently emphasised the probable effects of such competition "It is clear that the two systems cannot live together, and ordinary commercial considerations will force a levelling downwards of the higher railway rates and a levelling upwards of the lower railway rates, if the conditions governing the use of the public roads continue as now"

The Road and Rail Traffic Act, 1933, which is now coming into operation, will no doubt tend to restrict increased competition from road hauliers, since before new licences to operate goods vehicles may be granted it has to be shown that there is a need for them, and the railways have a right to lodge objections. But it must be remembered that the Act permits what is called "claimed tonnage" to all existing operators. There can, therefore, be no immediate reduction in competition. Moreover, the issue of "C" licences, that is, licences to those traders using road transport in connection with their own business and not carrying for others, may not be refused for either new or old tonnage, except on grounds of former bad conduct or failure to observe conditions. But, as stated in the Report of the Royal Commission on Transport, 80 per cent of goods-carrying vehicles are owned by traders and manufacturers for providing their own collections and deliveries, and one effect of the 1933 Act may be to increase the number of traders who provide their own transport. There is here, therefore, a wide margin of goods traffic which may be still further lost by the railways, or a similar margin that may be won back by them under favourable conditions.

Before the coming of the railways coastwise shipping used to be of the greatest importance to British trade, and during the nineteenth century it remained a formidable competitor to the railways. War-time conditions, however, transferred much of the traffic to the railways, and even yet coastwise shipping has not fully recovered from this set-back.

Nevertheless, coastal shipping is by no means a negligible competitor with the railways, since it is a very cheap form of transport. It has indeed been described as the British equivalent of the inland waterways of the Continent. It is particularly well suited to the carriage of coal (indeed 60 per cent of the commodities carried coastwise consist of coal), and for the distribution of food-stuffs from ocean-going vessels.

Coastwise passenger services operate between London and Newcastle, Liverpool and Scotland, while goods services are very numerous. From Manchester, for example, cargo liners sail weekly to Aberdeen, Dundee, Leith, Kirkcaldy, Newcastle, and twice weekly to London, Glasgow, and Greenock. The coastal liner services are now utilising road transport to effect collections and deliveries, and in this way are able to give direct door-to-door services, for which through rates are charged. Containers are also being employed.

During recent years it would seem that the railways have lost some of their traffic to the coasting trade. In evidence before the National Wages Board a year or two ago, Sir Ralph Wedgwood stated that the railways had lost the carriage of two million tons of coal from the Midlands to the South in consequence of the competition of coal shipped coastwise from Northumberland and Fife. Coastal shipping rates, he stated, were 16 per cent below their pre-war level owing to the severe depression in the freight market.

A recent important development in the coasting trade has been the evolution of Diesel-engined shallow-draught vessels capable of working into the smaller ports of the country. Such ships are now regularly penetrating to such places as Norwich, Colchester, York, Selby, Lancaster, Bridgwater, Gainsborough, Truro, Penryn, Exeter, and Totnes. The total number of ships engaged in navigating shallow channels has of recent years tended to diminish owing to the "scrapping" of obsolete sailing vessels, but, owing to the substitution of power-driven vessels of larger size, the volume of trade has tended to increase. The use of such craft has, for example, transformed Norwich as a port, and no less than 30,000 to 40,000 tons of sea-borne coal a year are now being carried into Norwich, whereas a few years ago the port was little used.

Some of the latest coasting vessels, though of 1,400 tons dead weight, have a draught under full load of somewhat under 14 ft., and can therefore enter ports formerly used by only the smallest coastal liners. The ships are fitted with the most modern equipment for the handling and stowage of cargo, and are therefore independent of the dock facilities—formerly a question of considerable difficulty. It is indeed true to say that the British shallow-draught coasting trade is being rapidly revolutionised.

Air transport is the third, and most recent, competitor with rail transport. Its great advantages are speed and independence of the nature of the route traversed, since direct journeys over

both land and sea are possible. In other countries, notably Germany and the U.S.A., air transport competition has been severely felt by the railways, but in Great Britain the comparatively short distances have prevented any rapid development of internal air transport lines up to the present year. The advantage of speed is somewhat reduced by the time taken to travel from the centre of towns to the adjacent aerodromes. In the next table statistics are given relating to air transport in this country for the years 1929-33. It will be seen that the total mileage flown, even for 1933, amounted only to a little more than three million miles.

TABLE IV

	1929	1930	1931	1932	1933
No. of ' permanent ' licensed aerodromes at December 31	36	50	58	68	79
No. of pilot licences current at December 31					
Class A	1,063	1,708	2,091	2,397	2,611
Class B *	207	252	315	369	441
Membership of Aero Clubs					
Total	3,873	5,808	6,572	4,629 †	4,931 †
No. of members holding Civil Pilot's certificate	717	1,270	1,526	1,106 †	1,569 †
Registered aircraft (including Imperial Airways)					
Total	600	846	924	981	1,055
No. on regular services	28	35	35	42	60
Mileage flown for hire or reward on regular and non-regular services, passenger and freight traffic (including Imperial Airways)	1,388,000	1,437,000	1,604,000	2,090,000	3,075,000

* 25-40 per cent. of these pilots hold "A" licences also.

† These figures are not strictly comparable with those of the preceding years, since the membership figures of 7 aero clubs under National Flying Services, Ltd., which ceased to receive Government assistance in July 1932 are excluded.

During the present year, however, great activity has been shown in the inauguration of internal air routes. In March 1934 a total mileage of approximately 5,000 route miles, or roughly a quarter of the railway route mileage, was contemplated by various undertakings taken together. Not all these schemes may come to fruition. Last year the mileage operated over regular routes was under 600 route miles. In previous years, therefore, the railway companies in this country had no occasion to take air competition very seriously, but profiting by their experience of road transport competition, and to be prepared, they obtained air transport powers in 1929. This year they have formed a new company—Railway Air Services, Ltd., in conjunction with Imperial Airways, Ltd.—for the operation of internal air transport routes.

Experiments made in the past have not been very encouraging,

and last year, for example, the G W R lost over £6,000 on its air service between Birmingham, Cardiff, and Torquay, while in 1930 the City Councils of Liverpool, Manchester, and Birmingham had to subsidise the internal experimental routes of Imperial Airways, Ltd

In the past the best results have been shown where air transport could take shorter routes than the rail, or routes involving a sea passage—*e g* the air ferries between Bristol and Cardiff, Hull and Grimsby, Glasgow and Belfast, London and Cowes, Thurso and the Orkneys

In August of this year Railway Air Services introduced a route between London, Birmingham, the Isle of Man, Belfast, and Glasgow, whereby it is possible to leave Glasgow at 9 15 a m and reach London (Croydon) by 1 30 p m Leaving London again at 3 10 p m one could be back in Glasgow at 7 30 p m

The importance of this year's developments are due to the employment of faster aircraft The machines used in 1930 on the Manchester-London route had a cruising speed of 90 miles per hour, but to-day the machines which are being employed are capable of over 140 miles per hour Another important development is the utilisation of these services by the Post Office for the carriage of mails

If the new services commenced this year can survive as a commercial undertaking, a new era in British transport will have been inaugurated But when full account is taken of all the costs of operation this is extremely doubtful, unless a subsidy in some form is granted them

The decline in railway traffic which has taken place during the post-war years has been due, as I have said, to a variety of causes, including economic depression, the shrinkage in world trade, and competition from other modes of transport It is a very difficult matter to disentangle the effects of the various causes, and no very definite conclusions can be reached on this point The effects of road competition are, however, incontestable, and the abstraction of traffic by this competitor is reflected in the general trends in traffic statistics for general merchandise and passenger services during the post-war period

Fluctuations in national prosperity are clearly indicated by variations in the volume of traffic (*e g* the peaks of 1920 and 1929 stand out clearly, as does the trough of the great depression), and these have affected traffic of all kinds The improvement in the internal economic position of the country is definitely indicated in the monthly traffic statistics of the past year, but

it cannot be expected that the prosperity of 1929 can be attained until the international trading position improves

The chronic depression in the old pre-war export industries has naturally led to a fall in the traffic provided by them, thus even in the comparatively good year 1929 the tonnage of coal, coke, and patent fuel carried by rail was only 91·8 per cent of that in 1913. By 1931 this traffic had fallen off by a further 33½ million tons. Now coal traffic has until recently been practically immune from road competition, and it is only during the past few years that coastwise competition has become somewhat more severe. A considerable fall in other mineral traffic since 1913 is obviously due to a similar cause.

General merchandise traffic shows a fall of more than 10 million tons comparing 1929 with 1913, despite the fact that the industrialisation and population of the country have increased since 1913. In this case, there is no doubt but that road competition has been the prime cause of the loss of traffic. The considerable expansion in the lighter industries of Great Britain hardly appears to be reflected at all in railway traffic. These industries are well suited to road transport, and in fact many new factories are now built not at rail-side, but on the main roads and utilise road transport for all their requirements.

As regards passenger transport, the very marked decline in First Class travel from 23½ million journeys in 1913 and 34½ million journeys in 1920 to only 17¼ million journeys in 1929 is no doubt in large part—though by no means altogether—due to the increased use of motor-cars. The fall in Third Class travel (756 million journeys in 1913, 823 million in 1920, and only 657 million in 1929) is due to the competition of the motor-bus and motor-coach. In estimating the effects of road competition it must be remembered that it is not sufficient to measure the figures of to-day against those of 1913. The railways have failed to obtain their share of the new traffic which has arisen since 1913 owing to increase of population or from the tendency of journeys *per capita* to increase as the years go by.

The only direction in which rail traffic has definitely held its own is in parcels traffic. Season ticket travel by train, it is true, has increased since 1913, but the railways have not gained a proportionate part of the new traffic, which must be very considerable bearing in mind the trend of population away from the centres of towns to outlying districts.

Turning next to consider the reasons why traffic hitherto rail-borne has been captured by other forms of transport, it is

obvious that the effects of the war, though they gave the railways an advantage over canals and coastwise shipping, were responsible for a set-back to railway efficiency, and thus gave road transport an opportunity to develop in its initial stages. Next the strikes of 1919 and 1926 resulted in the loss of much traffic to the roads and it is certain that much of this was never regained. The question of relative cost to the user has naturally been an important factor in determining the distribution of traffic as between road and rail, though it has not been the only factor. For many kinds of traffic, especially those placed in the higher classes of the railway classification, road transport except over long distances has been cheaper. Here we are faced with a fundamental difference in principle. The railways base their classification in the main on the value of the commodity, while road transport bases its classification on the cost of the service.

Relative costs to the user as between road and rail are affected by a variety of considerations such as transshipment, the degree of packing required, loading and unloading, the possibility of return loads, the volume of the traffic offering, distance, frequency of journeys, wage rates, and labour costs.

Road transport generally has the advantage where the haul is for short or medium distances, where return loads are available, where the articles require careful handling, or where the traffic passes in quantities sufficient for a van or lorry load. The advantages of road transport in regard to cost are, for example, well illustrated in the case of furniture removal, where road quotations in the past have often been very much below rail. The railways are now, however, trying to regain this traffic by means of containers.

Road transport has definite advantages for local deliveries and collections and for transit up to a certain distance, which varies with the nature of the traffic. On the other hand, beyond a certain distance for most kinds of traffic, for transport in bulk, and where certain ancillary services have to be performed, the rail has a definite superiority.

Cost, however, has not been the only factor in determining the relative economic spheres of the two forms of transport. As already indicated, speed, convenience, and incidental advantages have also to be taken into account. The motor vehicle is at the direct command of the user, it can readily be adapted to suit special requirements, there is a lessened liability to damage and pilferage, prompt service can be given, the goods can be loaded and unloaded by men conversant with the special

requirements of the business. The location of the consignor's or consignee's premises may be a further factor affecting the choice of transport methods. Again, the motor vehicle has a considerable publicity value for certain traders.

On the other hand, the reliability and speed of the railway, especially on long distances, give it an advantage. The relative advantages are well illustrated in the case of perishable commodities. Fish traffic, for instance, which often goes long distances, and which must arrive in time for the market, goes by rail, fresh fruit, which can be sent direct by road from the grower to near-by towns, goes by road. Again, long-distance milk traffic in bulk, generally, though not always, goes by rail, sort-distance collections from farms or deliveries to neighbouring towns go by road.

In the case of passenger traffic, the road has gained most on the short haul. Motor-buses can be operated so as to give a more frequent service, they can go right into the centre of the towns, and they may pass by the door of the traveller. They do not require a very heavy traffic in order to prove remunerative. But on the long journey the motor-bus is slow—even the long-distance express services in operation just prior to 1930 were generally competing with the railways in price only. Costs were low because of the user obtained from the vehicles and the cheap "summer" tickets had not then been introduced. Road transport cannot deal so successfully with intensive passenger traffic as can rail.

In the case of air transport competition depends almost entirely on speed. Air transport in this country shows to the greatest advantage where rail transport is slow because of round-about routes or where transfer between rail and sea is involved.

It must, I think, be admitted that until the last few years the railways either did not realise the extent to which road transport was likely to develop or, at least, were slow to take steps to meet the competition which was arising. Prior to the advent of road transport the railways relied too much on their established position. They were inclined to wait for traffic to come to them, since in most cases no other mode of transport of equal efficiency was available. It is true they employed canvassers, but canvassing for traffic was not undertaken to the same extent or with the same zeal as it is to-day. The needs of their customers were not made a special subject of study. There was a tendency to wait for complaint to arise before altering an existing mode of operation or the kind of service offered, except

in those cases where an operating economy to the benefit of the company was likely to be effected. Examples are not far to seek. On the passenger side they failed to see the latent demand for a more frequent service of trains at more regular intervals, especially on branch lines. On the goods side they took insufficient notice of the changes in the needs of traders. Owing to the more rapid changes of fashion, to the necessity of holding a greater variety of goods and at the same time keeping working capital low, traders to-day keep smaller stocks of each commodity. Frequently they need to replenish stocks at short notice, and consequently demand a more expeditious delivery of small consignments. In consequence of these changes, merchandise traffic by goods train has definitely tended to go in smaller lots, and in many depots the increase in the number of consignments per ton of goods handled has been remarkable.

These demands of the passenger and the trader are admittedly expensive to meet. The costs of providing such services with the existing equipment or mode of operation are higher than for the kind of service hitherto rendered by the railways. A monopoly holder under such conditions may refuse to supply the public with what it wants, but where competition exists a firm can only do so at the risk of being driven out of business.

It is true that the Railways Act, 1921, no less than the economic depression, made it incumbent on the railways to effect economies both in their organisation and in their mode of working, and, as we have seen, in spite of the high level of their wage and certain other costs, they have succeeded in doing so to a marked degree. Yet I cannot help but feel that in certain directions economies have been effected at the expense of efficiency, though not, as the statistics show, at the expense of safety.

Within the last few years this policy has, however, been reconsidered. A considerable programme of re-equipment has been entered upon. Lines are being widened, new locomotives and rolling stock are being built, and smaller trains at more frequent intervals are being run on branch lines. There is every indication that this policy is to be actively pursued in the near future. The extension of electrification of lines is a special case in point.

Even more noteworthy are the attempts now being made to recover the goods traffic the railways had lost to road transport. Braked goods trains have considerably increased since 1928, giving a far quicker service from station to station. Containers for perishable goods, for furniture, and for special consignments of

various kinds are now being increasingly provided, and suitable wagons built for their conveyance. Collection and delivery services at terminal stations have also been entirely overhauled and improved. The delivery areas have been extended. Feeder services for the collection of goods by road vehicles have been established in many centres, enabling the delivery of goods at their destination to be effected on the day following that of collection. The delivery of goods has also been expedited by the establishment of railhead or radial distribution centres from which goods are delivered over wide areas by fleets of motors, which thus save the delays of transshipment and quicken delivery.

Naturally, these new services have taken time to develop, and though it is still true that in certain cases consignments of less than wagon-load amounts are several days on the journey from sender to consignee, the average journey time of consignments on the railways has been greatly reduced.

A considerable change in the methods which the railways might adopt in dealing with road competition was brought about by the Railway (Road Transport) Acts, 1928, which conferred road powers on the railway companies. Under these Acts, each of the four grouped railways was permitted to own and operate road vehicles in any district to which access is afforded by the system of the company. The railway companies were also allowed to invest in any established road transport concern or to enter into agreements with any municipality, company, or other concern. Rates and charges, however, are subject to review by the Rates Tribunal on application by interested parties, and notice of any agreement must be given to the Minister of Transport.

Until these Acts came into operation the railways were fighting with one arm tied. The road arm is now free, and the railways have already shown that they intend to use it freely, not only where it is actually remunerative, but wherever it is felt desirable to improve efficiency and effect quicker delivery of goods. The liberty conferred on the railway companies by the Acts is very wide, and except in the matter of charges for regular services—which will, it is likely, be always a minority of the services required—puts the railway companies in a position to compete with the road haulier with absolute freedom.

An "ideal distribution" of traffic would provide for an economically sound division of function between road, rail, and other forms of transport, and would take into account, not only the price to the consumer and the cost to the operator, but also the ultimate real cost to the community. Such an "ideal"

division of function would provide that every passenger and every ton of goods would pass by that mode of transport or combination of modes which would provide the most efficient service at the least cost to the community. In this way overlapping, redundant, or unnecessary services would disappear, and each form of transport would convey just those passengers and goods for which it was best suited. Such a division of traffic between the different modes of transport would be determined by the demand of those who required it and the facilities offered by those who provided it, while the incidence of cost to the community should be such as not to involve the subsidisation of any one form at the expense of the others.

Sir Josiah Stamp, in his Presidential Address to the Institute of Transport, examined this particular problem from the point of view of expenditure of capital. He argued that if all forms of transport were subject to one authority, such a body would be failing in its duty if it extended one form of transport—other things being equal in the matter of service—instead of another which would have involved less expenditure or given better results for the same outlay. But, as he pointed out, under present conditions there is no guarantee that any one section of transport, in ignorance of the true costs or scientific position of the other, may not embark capital on projects which may be quickly rendered obsolescent by imminent advances elsewhere, or alternatively it may fail to embark capital for fear of obsolescence which in fact does not occur. We have, as he pointed out, not yet reached the stage where rival forms come together and agree that a particular piece of transport development should be undertaken by that form of transport which can do the work for least cost taking into account any public expenditure involved. He added that “Even governmental application of capital to transport itself is quite empirical, especially if it has responsibility for one form and not for another. How much more is the application of capital by a hundred different agencies?”

The difficulties of distributing traffic on any “ideal basis” have been strongly emphasised in the Final Report of the Royal Commission on Transport. “But as things are to-day,” they ask, “is such a state of affairs, or even any approach to it practicable? Who is to decide, for example, what rail services are desirable in the public interest and what amount of coastwise shipping? Or what goods should in the national interest be sent by rail, road, canal, or ship? To propound the question is sufficient to bring home the immense difficulty which it involves.”

They suggested, however, a rough approximation to this position in one particular, since they were of the opinion that it is not in the national interest to encourage further diversion of heavy-goods traffic from the railways to the roads "Such further diversions would add greatly to the expenditure on highways and tend to make the railways unremunerative without conferring any commensurate advantage "

The Salter Committee endorsed this view, and recommended that the Minister of Transport should be given power to prohibit by regulation (after consulting the Advisory Committee which they recommended should be set up) certain classes of traffic which are unsuitable for road haulage from being transferred in the future to the road They added that there is room for a scientific inquiry as to the most economic form of transport for each class of goods, having regard to distance and other considerations

The ideal distribution of traffic could only be brought about if it were possible to secure that each piece of transport service, by whatever mode of transport it was effected, was charged for at a rate sufficient to cover its true cost of production But the difficulties of determining such true costs are very great indeed, and especially so in the case of both rail and road transport On the railways it is impossible unless one makes large and arbitrary assumptions in the division of costs between different categories of traffic, yet requiring the same permanent way, much common equipment, and many common services It is equally difficult in the case of road transport—as the Royal Commission on Transport and the Salter Conference realised—if one is to take into account a proper share, according to user, of the cost of construction and maintenance of roads, the cost of signalling road junctions, the cost of street widenings in cities, and the construction and maintenance of terminal and junction stations It would appear that in both cases we can only approach the problem by empirical methods The real cost of production eludes us

To what extent is it possible for the railways to find some solution of their problem by an alteration of their present (statutory) system of charging? Such a step is advocated by many railway critics at the present time The proposals range from a general lowering of rates and fares—based on the assumption that the elasticity of demand for rail transport is such that a higher aggregate net revenue would thereby be obtained—to schemes involving a revolutionary change in the general structure of railway charges

Prof Pigou, in his *Economics of Welfare*, makes a careful analytical examination of the contrasted methods of charging according to value of service and cost of service, and comes to the conclusion that the latter mode of charging would bring about a better distribution of national resources and thereby increase national welfare. But his argument is by no means clear, nor does he indicate how the system could be carried out in practice. He admits that to apply the system would involve a number of delicate adjustments, since rates would have to vary with the incidental costs attaching to each service, and with the time at which it is provided in relation to the peak of the load. To provide for these adjustments would often be, as he again admits, a very difficult matter, involving costly technique and account-keeping. Eventually, he compromises by stating that it is a matter of how near to the ideal of cost of service it is desirable to approach, and of determining at what point the advantage of getting closer to cost of service is outweighed by the complications, inconveniences, and expense involved in doing so. Moreover, there is the point that any change-over to a system of charging based essentially on cost of service would cause a very considerable disturbance in the present distribution of economic resources and activities. Various economic equilibria have been established on the basis of the present system of charges—*e.g.* location of plants, organisation of the heavy industries, etc., all of which would be disturbed by such a fundamental change. The matter is, for example, linked up with our present export industries, since in the past the mainstays of our export trade have been the coal, iron, steel, heavy chemical, and heavy engineering industries, all of which obtain the advantage, under the present system of differential charging, of low railway rates. Obviously, a change of such magnitude would create great opposition from many people who would fear that their position would be adversely affected. There is, indeed, little doubt that public opinion would strongly resent any sweeping changes. On the other hand, should the nature of our export trade change in character in the future or should we develop our home markets at the expense of our exports, there would probably be less opposition to the change. Nevertheless, as Mr Wood has indicated, some change in the structure of railway charges must be made, unless the competition between rail and road transport is put on a more equitable basis, or their competitive superiority in given cases can be more clearly established.

Prof Pigou has emphasised the importance of the time factor in relation to peak loads, but it is also necessary to consider the load factor itself. Some advocates of railway reform, such as Mr M F Farnar, have based their proposals on a consideration of this factor. It must, I think, be admitted that the load factor, both in relation to time and volume of traffic passing in a given consignment or on a given section of line, is of considerable importance. The influence of this factor is already seen at work in current railway practice. For though railway rates are based in the main on the value of the service, other factors are also taken into account. An example of the influence of the time factor is that of reduced fares on certain suburban routes for traffic outside the peak hours. The load factor is also taken into account in "minimum consignment" rates, the rate for small consignments, and in those special or exceptional rates which are granted in consideration of the traffic passing in bulk—*e g* full wagon or full train loads.

The question is how far could the practice of charging according to the load factor be extended with advantage. Costs to a railway are at a minimum when its capacity is fully employed. It could, I think, be argued that charges should be varied according as the particular demand for transport services increases or diminishes the load factor. If certain traffics involve only the partial utilisation of equipment which nevertheless has to be provided—*e g* traffic passing in less than full wagon or full train loads, provision of additional terminal facilities, etc—then it might be said that the charges should be higher than for traffic which gives a better utilisation of equipment.

In the somewhat analogous case of electricity supply, it is of interest to note that charges are more and more being based on considerations relating to the load factor. Electricity cannot be stored economically. Hence any demand that comes on at a peak hour has, so to speak, to have part of the capital of the generating machinery allocated to it. But if a new demand came on only between peak hours, this allocation would not be necessary.

It is conceivable that the system of railway charging according to the load factor may be taken more into account in the future, but it is difficult to see how it could be applied as a universal method. It is still more difficult to see how it could prove a solution of the problems to-day confronting the railways. Road competition alone, and perhaps that of air transport in the future, not to mention the increasingly retail character

of trade, would wreck any attempt to enforce a rigid adherence to this principle.

I see, therefore, no real solution of the problem along either of these lines. Meanwhile, there is considerable diversion of traffic from a more economic to a less economic mode of transport. How is this to be prevented?

In a noteworthy article in the *ECONOMIC JOURNAL*, June 1922, on "Communication Costs and their Interdependence," the late Sir William Acworth drew attention to the uneconomic diversion of traffic which may occur when one form of traffic is subsidised by the State. "There is," he said, "a real distinction between the cost of providing a means of communication which is of general—or at least of wide—public benefit, and the cost of its use, which normally benefits only the particular user." If, however, in one case the user, whether passenger or trader, has to pay the whole cost of his use, including the cost of providing and maintaining the specialised road as well as the actual conveyance cost, whilst in another use he is called upon to pay either a conveyance cost only, or the cost of conveyance plus some of the cost of maintenance of the roadway, uneconomic diversion of traffic from one mode of transport to another is likely to occur. He quotes numerous instances of such diversions of traffic, not merely from railways to roads, but also from railways to canals or coastwise shipping.

"If it be reasonable to charge upon the user of a macadam road the cost of use only, there seems no a priori reason why a similar policy should not be adopted in the case of a railroad." He foresaw, however, the very great difficulty there would be in apportioning the cost of construction and maintenance to the users of the roads or other mode of transport. In the case of the roads, even if the capital cost incurred up to a given point were ignored—as, in fact, the Salter Committee later proposed that it should be—it would be a task of well-nigh insuperable difficulty to work out a new scheme of tolls or licences which would apportion the remaining costs even approximately and with only rough justice as between the many different classes of users.

His plea, therefore, is that the cost of construction of communications—using the term in a broad sense—together with the annual cost of their maintenance should be a State charge, undertaken in the economic interests of the whole community.

The adoption of such a policy would mean not only a drastic revision of the present system of road taxation, but also the

handing over of the permanent way of the railways at a fair valuation to the State, which would then become responsible for its maintenance

The difficulties of getting public opinion to approve such a scheme are obvious, and were fully recognised by Acworth himself. The railways are private enterprises, and the suggestion that the taxpayer or ratepayer should be called upon to pay any part of the cost of construction and maintenance even of new lines, much more of lines constructed in the past, "would come as a shock" to the average Englishman, though both in Paris and New York this has, in fact, been done in the case of urban lines. This would be the first difficulty. Nor is it likely that public opinion would be won over by the fact that both in this country and in the U.S.A. laws have been passed limiting the profits which railways may earn to a reasonable return on their invested capital.

But there is a further difficulty. It is obvious that if the railway companies were relieved of this part of their cost of operation, railway charges could be very greatly reduced. The capital expenditure of the four grouped companies to December 31, 1933, on the lines open for traffic or under construction amounts to £795 million. Interest on this sum at 4 per cent. would amount to £31.8 million. Maintenance of way and works amounts to £16.8 million. Though a considerable reduction would have to be made from both these items in respect of works which are not part of the permanent way, it is clear that the railways would be able to make sweeping reductions in their charges and yet earn their full standard revenue as fixed by the Railways Act, 1921.

But would this in itself secure that economic distribution of traffic, both of passengers and goods, as between competing modes of transport, which is the distribution desired? Though it would remove some glaring inequalities, as between road and rail, it would not really effect the object Acworth had in mind. The cost to the State in providing and maintaining the communications for each mode of transport might easily prove to be heavier for a unit of transport work undertaken by one mode of transport than by another. Nor is it easy to see how the State might so adjust the scales that traffic—having regard to the kind of service required—would pass by the most economic method. In the absence of such adjustment the economic loss to the community would be considerable.

Whilst, therefore, we can agree with Acworth that "it is

incumbent on the Government so to shape its policy as to encourage that means of communication which in each case is on the whole the most economical to the community at large " and that "to permit individual users to employ a means of communication which, though the total cost is greater, is cheaper to them because they can impose on the taxpayer or ratepayer a portion of the cost is economically unsound," yet we cannot but feel that a solution of the problem is not to be found along the lines he indicates

Nor do I think a solution is to be found in an attempt to bring about some rational and economic division of traffic as between rail and road, as was advocated by Mr G Walker in his paper to this Section at Leicester last year Under his scheme the railways would be considered not as a whole but by sections, distinguishing those sections which could and those which could not be worked profitably under a revised scheme of charges dictated not by adherence to the general railway classification, but by the exigencies of the situation, the charges being higher where the traffic is light than where it is heavy The profitable lines would thus, he claimed, be able to earn a reasonable net revenue The unprofitable lines would be closed down and their capital cost written off The areas of the latter would then become entirely dependent on road or other modes of transport It is even asserted that, of the 20,000 route miles, as much as 10,000 miles might have to be closed, and that, in fact, the only lines to be kept open might be the main lines between large towns

The adjustment required from the road transport industry would be equally drastic Under such a scheme it would be required to serve only those routes, or areas, where traffic is both light and irregular, and where return loads are not by any means certain Each mode of transport would have a virtual monopoly in its own area

It is hardly necessary to dwell on the opposition which such a division of traffic would call forth not only from the railways, but from the road hauliers, and, more important still, from the traders It is sufficient criticism of such schemes to say that they fail to take account of the great diversity in transport needs, and in the most economic methods of meeting them As modern practice is increasingly showing, a combination of rail and road transport is often the most efficient and economic method of meeting a given demand, particularly in the case of small consignments the delivery of which is urgently required

Moreover, it would entail carrying by road in certain areas, traffic for which road haulage is unsuitable and uneconomic, or in other areas sending goods by rail for which rail transport cannot give the kind of service required

It is not, therefore, by division into areas or spheres that the problem can be solved. Both rail and road transport are necessary in all areas, except those of very sparse population. The decision as to which shall be employed for a given piece of transport must be decided by relative efficiency and relative cost in meeting the demand. The two modes of transport must in this sense necessarily be in constant competition with each other, and it is desirable that they should be so. The real problem is whether those costs can be sufficiently nearly determined in any case to decide which is the more economic.

A new phase in the competition between rail and road transport has arisen as a result of the Road and Rail Traffic Act, 1933. Under Section 37 of Part II of this Act, a railway company may, subject to the approval of the Railway Rates Tribunal, make such charge or charges for the carriage of the merchandise of any trader as may be agreed upon by the Company and the trader. Such "agreed charges" must, however, not be approved by the Tribunal if the object may, in its opinion, be secured, having regard to all the circumstances, by the grant of appropriate "exceptional rates" as provided for in the Railways Act, 1921. Moreover, it is important to note that a railway company in respect of an "agreed charge" is exempt from the obligation to make equal charges to all persons under like circumstances, and from the obligation to accord no undue preference to any person or firm. The consequences of this to traders will be considered later.

Already over 500 applications for "agreed charges" have been made on the goods side alone, and a large number have been sanctioned by the Tribunal. Judging from the number of inquiries received by the railways, this system of "agreed charges," which may take the form of a flat rate on all the traffic of a firm, irrespective of distance or the diverse nature of the goods, would seem to offer definite advantages to a number of traders. The agreements so far made include a provision that the trader should hand to the railway the whole of his traffic to which the "agreed charges" are applicable. In one case—one of the greatest interest—the charge is based not "per package" or "per ton," but on an *ad valorem* basis of $4\frac{1}{4}$ per cent of the total value of the goods purchased by the trader.

Such a basis of charge, whilst not unknown in the case of road haulage, is a distinct innovation in the case of railways. It is obvious that these "agreed charges" may help to reduce accounting and clerical costs both to the trader and the railway company. But to the railways the main advantages are that they will secure additional traffic and eliminate the risk of further diversion to road transport. The provision in the Act of 1933, which made these charges legal, was inserted as a result of an adverse judgment by the Railway Rates Tribunal in 1932, in the celebrated "Robinson Case," when an agreed charge in the form of special exceptional rates proposed by the Great Western Railway was refused on the ground that these were not new exceptional rates within the meaning of the Railways Act, 1921. The Act of 1933, therefore, relieved the railways of a statutory limitation which did not apply to their road transport competitors.

If the number of successful applications for "agreed charges" is any indication, it would seem that this new system of charging is likely to be considerably extended, especially in the case of the larger traders. It is a development of the utmost significance in the history of rail and road competition. The system of differential charging prescribed by Parliament in the earliest Railway Acts, and continued in successive Acts, had already been seriously undermined by the great extension of "exceptional rates," despite the attempt in the Railways Act, 1921, to reduce their number by the device of increasing the number of classes in the general railway classification from 8 to 21. "Agreed charges" are a still greater departure from the principles of that classification.

The result of a large extension of the system of "agreed charges" will undoubtedly be still greater competition with road hauliers, and much of this cannot fail to be extremely wasteful to the community. But the effect on traders generally is even more serious. If the railways make individual contracts with particular traders, others in the same line of business will no longer be able to rely, as they have been able in the past, on non-preferential treatment. The appropriate flat rate to one trader may, owing to the different nature or scale of his business, be higher than the flat rates to one or more of his competitors. Hitherto, except in certain cases where the quantity of traffic forwarded has differed considerably, he has been able to rely on the fact that ~~one~~ of his costs—his costs of transport—is identical with that of the others in the same place in competition with him. This may no longer be the case in rail rates, just as it

has not necessarily been the case with road transport charges. That the traders realise the consequences of this is clearly seen in the evidence given by them and various trade organisations in the course of the hearing of the Robinson and Woolworth applications for agreed charges

The traders are, in reality, on the horns of a dilemma. They cannot ask that the railways should be tied to their former methods of charging while they themselves are free to choose road transport when it suits them to do so, and at the same time to fall back on rail transport when it does not suit them, or when it is more expensive to use the roads. In the past the traders have had the best of two worlds by utilising road transport for the delivery of their high-valued manufactured products and rail transport for their coal, raw materials, and even returned empties

What then is the solution of the problem? How can the trader's position be best safeguarded and at the same time wasteful competition between road and rail be minimised—a competition which will become more intense with the extended use of agreed charges? How can the real needs of the country in the way of transport be best and most economically met?

It would be a foolish and retrograde solution to suggest—though this has secured approval in certain countries where State railways have been protected by the governments—that the great advantages accruing from the development of road transport should be forfeited in the interests of the railways. These advantages should be secured to the community except where they are clearly uneconomic in character. The railway companies in effect admit this, as is shown by their own increasing use of road transport either alone or in conjunction with the rail, not only in those cases where they have to meet road competition, but in cases where this method gives a better or more economic service

The best solution that I can see is that the railways should cease to be regarded as merely railway companies—which as a matter of fact they have long ceased to be, as witness their numerous and well-developed ancillary undertakings such as hotels, docks, canals, housing estates, associated air and road transport services, and numerous other undertakings. They should come to be regarded as transport companies, undertaking a given piece of transport by that means or combination of means which appears to them (however impossible it is to ascertain real relative costs) to be the most economic and, at the

same time, most suited to meet the real demand of the traveller or trader

But this solution would mean the absorption of road passenger and goods services—where undertaken for hire or as public services and not performed by a firm for the transport of its own commodities—by the new “transport companies” There would naturally be much opposition to this solution, and public opinion would have to be educated

This, however, is the solution of the problem which has been adopted by the Irish Free State The Transport Act, 1933, of the Irish Free State provides, subject to the approval of the Minister of Transport, for the compulsory acquisition of all road transport agencies by railway or shipping companies

It is significant, too, that a similar solution has been recommended by Sir Felix Pole in his Report of July 21, 1934, to the Government of Northern Ireland, who had requested him to submit recommendations for co-ordinating road and rail transport in that country He advises the formation of a Road Transport Board to include all road transport services, both passenger and goods Further, he recommends that the Board should be compelled to pool its revenues with the railway companies He was deterred from recommending a single Transport Board, combining both rail and road transport, only because this would involve special difficulties due to the fact that six of the railway companies operate both in Northern Ireland and in the Irish Free State Sir Dawson Bates, the Minister for Home Affairs, has since announced that the Government have decided to adopt the main principles of Sir Felix Pole's report “The Government,” he said, “have come to the conclusion that the only practicable method of achieving the object we have in view is to bring the two systems of transport into partnership with a common financial interest, and to get them to work together instead of against one another, so that the best features of both may be used in one system” It is understood that the necessary legislation will be introduced in the spring session of Parliament The formation of the London Passenger Transport Board was also a step in the same direction, though, as its name implies, it is limited for the most part to the carriage of passengers only

If the scheme proposed as a solution, namely, the formation of “Transport Companies,” were adopted, it might also be necessary to include air transport operating on internal routes But this should not be difficult, since the railways, as we have seen, already have an interest in some of these services

In this way all the means of land transport would come under unified management, leaving competition only between land transport and canal or coastwise traffic. This is probably capable of being distributed on a more economic basis under competition than in the case of road and rail, and it could therefore be left to the forces of competition. It would thus be left to the transport company to decide whether a given piece of transport should be effected by rail or by road, or by a combination of the two, but with due regard to the service required by the community. Obviously it would be to its own interests to effect it by the most economic method. Its own net revenue will be diminished by mistaken methods. And though, as we have seen, it will still be impossible for it to work out exact costs of operation, either for rail or road, it should be able to do so approximately on certain general assumptions based on experience, and in this it will be appreciably helped by the fact that both methods of operation are within its own control.

This solution involves, of course, a considerable degree of monopoly. The fact has to be recognised. But it should be remembered that in this matter transport would only be adopting in its own special way the method of rationalisation that has had to be applied in different ways and in different degrees to other industries.

The interests of the community could be safeguarded. The principle of limitation of profits could be applied to the new transport companies as it was applied to the railways in the Railways Act, 1921, and as it is applied to other public utility undertakings. Provision would have to be made so that the companies would share in increased profits or reduced costs due to greater efficiency of operation.

The main difficulty would, of course, be to ensure that the monopoly companies should be kept to a high degree of efficiency, and that they should continue to meet in a satisfactory way the real and ever-changing transport requirements of the community. This might be effected by a transformation of the Railway Rates Tribunal, which no longer performs any vital function, into a statutory body charged with the express duty of seeing that the transport companies are working with due economy and efficiency and at the same time meeting the reasonable and legitimate demands of the travelling public and those engaged in industry and trade. Such a body should have power, with certain safeguards, to compel a reluctant company to institute a change in its services or methods of operation. There

would remain, too, a certain check on efficiency, since it is not proposed to restrict the use of private motor-cars or traders in the use of their own road vehicles for the purposes of their own business

Despite the development of the new forms of transport, railways still remain the backbone of the transport services of the country. They are likely to remain so for many years to come. They are still the most economic mode of transport for many purposes. But to meet modern requirements they need to be supplemented by other modes of transport. This, I venture to think, can be done most effectively and economically when the different modes of transport are under one management.

H. M. HALLSWORTH

THE "NEW DEAL" IN THE UNITED STATES

I. THE AGRICULTURAL ADJUSTMENT ACT PRINCIPLES, PRACTICES AND PROBLEMS

THE central thesis which united the framers of the basic legislation of the New Deal was the conviction that economic revival depended upon the generation of purchasing power. It was an article of faith of the framers of the Agricultural Adjustment Act that one of the primary causes of the economic impasse was the destruction of the farmers' purchasing power. This, the framers of the Act held, was due to the catastrophic fall in agricultural prices.

The framers of the Act had passionately asserted for years that it was necessary to restore the price level of agricultural commodities if the American farmer was once more to become a customer of any significance for American industry. They had pointed out without ceasing the ridiculousness of making international loans which could never be repaid in order to maintain and expand the foreign market when the great natural market of the American farm population was dwindling steadily away.

The opponents of the Act argued against the principle of raising the price of farm products that it would be only the labour of Sisyphus, since if agricultural prices were raised, the cost of living would be increased, wages and other manufacturing costs would also increase, the prices which farmers paid for industrial products would rise, and the farmer and everybody else would be no better off than before. The framers of the Act believed, on the contrary, that if the purchasing power of farmers were increased, this would not cause the price of a strictly limited quantity of industrial products to rise, but would primarily express itself in an enlarged output of industrial goods by productive factors otherwise unemployed, so that an important net gain in national income would be realised.

The framers of the Act knew, furthermore, that the portion of the consumer's dollar which went to pay transportation, processing, and merchandising of farm products had increased when the price of agricultural commodities declined. In the case of

wheat, for example, the price charged by the railroads, the millers, and the bakers for their services in the process of changing wheat into bread, had been reduced very little during the period of decline in farm prices¹ The precipitous fall in the price of wheat had meant only a very modest decline in the price of bread It was argued, therefore, that if the decline in agricultural prices had resulted in a very small saving to the consumers of agricultural products, raising the price of agricultural products would not greatly increase the cost to the consumers of these products

Beyond this, the framers of the Act knew that the burden of fixed cost due to interest on mortgages and to taxes would be materially lessened by an increase in the price level even if the prices of industrial products rose in like proportion Consequently, the framers of the Act were convinced that the Agricultural Adjustment Act, if it resulted in higher prices to farmers, would have a definitely stimulating effect on business

Even in the case of those commodities where increase in the price paid to farmers would cause a substantial increase in price to the consumer, the framers of the Act maintained that farmers had a right to returns which would enable them to share in what had come to be considered the American standard of living Farmers believed that consumers of their products had been getting these products at less than a just price In the case of pork products, for example, a material increase in price to the farmer would mean also a noticeable increase to the consumer, for in this case the price paid to the farmer is relatively a substantial part of the price paid by the consumer The farmer felt, however, that the consumer had been getting pork in recent years at a price which did not give the farmer decent wages For all these reasons the framers of the Act were determined to carry out a policy of raising the level of farm prices

This policy is expressed in section 2 of that Act, which is as follows

“ It is hereby declared to be the policy of Congress—

(1) To establish and maintain such balance between the production and consumption of agricultural commodities, and such marketing conditions therefor, as will re-establish prices to farmers at a level that will give agricultural commodities a purchasing power with respect to articles that

¹ The wheat producers' share of the retail bread price fell from 19 c per lb in 1928 to 0.6 c per lb in October 1932 The share retained by bakers, millers, and transporters fell from 7.2 c to 6.1 c during the same period

farmers buy, equivalent to the purchasing power of agricultural commodities in the base period. The base period in the case of all agricultural commodities except tobacco shall be the pre-war period, August 1909–July 1914. In the case of tobacco, the base period shall be the post-war period, August 1919–July 1929.

(2) To approach such equality of purchasing power by gradual correction of the present inequalities therein at as rapid a rate as is deemed feasible in view of the current consumptive demand in domestic and foreign markets.

(3) To protect the consumers' interest by readjusting farm production at such level as will not increase the percentage of the consumers' retail expenditures for agricultural commodities, or products derived therefrom, which is returned to the farmer, above the percentage which was returned to the farmer in the pre-war period, August 1909–July 1914."¹

II

In order to effectuate the declared policy, the Secretary of Agriculture was given far-reaching additional powers, among them the following:

(1) To provide for reduction in the acreage or reduction in the production for market of basic agricultural commodities through agreements with producers and to provide for rental or benefit payments in connection therewith.

(2) To advance a percentage of any benefit payment on the security of stored basic commodities.

(3) To enter into marketing agreements with processors, associations of producers and others engaged in the handling of any agricultural commodity or product of such commodity, such agreements to be exempt from the anti-trust laws.

(4) To issue licences permitting processors, associations of producers and others to engage in the handling of agricultural commodities or their products. The Secretary of Agriculture was given the power to suspend or revoke such licences for violation of the terms or conditions of the agreements.

¹ The Agricultural Adjustment Act constitutes title 1 of the Act (H. R. 3835) approved May 12, 1933, entitled "An Act to relieve the existing national economic emergency by increasing agricultural purchasing power, to raise revenue for extraordinary expenses incurred by reason of such emergency, to provide emergency relief with respect to agricultural indebtedness, to provide for the orderly liquidation of joint-stock land banks, and for other purposes." 48 Stat. 31, as amended June 16, 1933, ch. 90, 48 Stat. 195, 210, sec. 221, and ch. 98, 48 Stat. 257, 273, sec. 86.

(5) To require any licensee under these sections to furnish reports on quantities and prices of agricultural commodities or their products bought and sold, as well as reports on trade practices and charges, and to keep whatever systems of accounts might be necessary for carrying out the purpose of the Act

(6) To levy processing taxes on basic agricultural commodities ¹

(7) To use funds derived from processing taxes not only to pay rental and benefit payments to producers who agreed to reduce production, but also for the expansion of markets for agricultural commodities and for the purchase and disposal of surplus agricultural products

The Act provides a mechanism for raising the price of certain enumerated basic commodities primarily through the device of so-called benefit payments to farmers who co-operate in reducing production out of funds to be obtained from processing taxes levied on the first processors of the enumerated basic commodities. The commodities which were specifically denominated as basic in the original Act were wheat, cotton, field corn (maize), hogs, rice, tobacco, and milk and its products. Actually processing taxes were placed upon only five of the basic commodities, namely, cotton, wheat, corn, hogs, and tobacco ². The circumstance

¹ In the words of the Act

"The processing tax shall be at such rate as equals the difference between the current average farm price for the commodity and the fair exchange value of the commodity, except that if the Secretary has reason to believe that the tax at such rate will cause such reduction in the quantity of the commodity or products thereof domestically consumed as to result in the accumulation of surplus stocks of the commodity or products thereof or in the depression of the farm price of the commodity, then he shall cause an appropriate investigation to be made and afford due notice and opportunity for hearing to interested parties. If thereupon the Secretary finds that such result will occur, then the processing tax shall be at such rate as will prevent such accumulation of surplus stocks and depression of the farm price of the commodity. In computing the current average farm price in the case of wheat, premiums paid producers for protein content shall not be taken into account.

"For the purposes of Part 2 of this title, the fair exchange value of a commodity shall be the price therefor that will give the commodity the same purchasing power, with respect to articles farmers buy, as such commodity had during the base period specified in section 2, and the current average farm price and the fair exchange value shall be ascertained by the Secretary of Agriculture from available statistics of the Department of Agriculture."

² The Act was amended in the last session of Congress to include beef and dairy cattle, sugar, peanuts, rye, flax, barley, and grain sorghums as basic commodities. Processing taxes and benefit payments have now been provided for sugar and peanuts. The rate at which benefit payments are made to contract signers naturally differs from the rate at which processing taxes are collected by the Treasury. To date, however, the data indicate that processing taxes will provide sufficient revenue to meet all benefit payments which have been contracted.

that only a small proportion of corn is processed and that by far the largest amount is fed to hogs by the growers, necessitated placing corn and hogs in a joint category so that processing taxes derived from the sale of pork products are used as a source out of which benefit payments are made to corn farmers who participated in the programme

In essence the benefit payments made out of processing taxes are additions to price which accrue only to those farmers who co-operate in reducing production. Farmers, by this means, are induced to reduce production since they cannot afford to forgo these rewards. It was intended likewise to furnish a mechanism so that the price of the commodity on the internal market could be raised to the desired point without destroying the competitive position of the commodity on the foreign market at the same time.¹ It was only, however, for the crop year 1934 that the mechanism of the processing tax and the benefit payments could get adequately into operation, although emergency programmes were carried out for the 1933 crop. The measures taken to reduce the cotton crop of 1934 will serve as an illustration of the way in which the mechanism operated.

About one million individual contracts were signed between the Secretary of Agriculture and cotton-growers.² By the terms of the contract, the grower of cotton agreed to reduce his acreage of cotton for the year 1934 by an amount not less than 35 per cent and not more than 45 per cent of his five-year average acreage. This the grower did by leasing to the Secretary of Agriculture the acres on which he agreed not to plant cotton. The cotton producer specified in the contract the exact reduction in numbers of acres which he agreed to make. At the same time the producer agreed to reduce his planting of cotton in 1935 by not more than 25 per cent of his five-year average acreage in case the Secretary of Agriculture should proclaim his intention of continuing the cotton acreage reduction plan for 1935.

The producer agreed in addition not to increase the total acreage planted to all crops after deducting the contracted reduction in cotton acreage, not to increase his acreage in any basic commodity as designated in the Act, and not to increase

¹ This was the principle of the so-called "domestic allotment plan," upon which the present Act is essentially based. There is no processing tax on exported commodities. The processing taxes are intended to supplement the domestic price so that the farmer will receive a total return per unit for the portion of his crop sold domestically equal to that of 1910-14.

² A total of about three million contracts covering the production of cotton, wheat, corn-hogs, and tobacco were signed.

the number and kind of live-stock designated as a basic commodity in the Act. The producer likewise agreed to use the acres rented to the Secretary only for soil-improving crops, erosion-preventing crops, food crops for consumption by the producer on the farm, or for fallowing, or for such other uses as might be permitted by the Secretary or his authorised agent.

Furthermore, the grower of cotton agreed to carry out the reduction in acreage in such a way as to maintain a normal number of tenants and other employees, to permit tenants the use of an adequate portion of the acres rented to the Secretary to grow food and feed crops for home consumption and for pasturage for domestically used live-stock, and to permit tenants the use of work animals and equipment on these acres in exchange for labour. These provisions in regard to tenants are peculiar to the cotton contract and are due to the particular relations between landlords and tenants in the South.

In return for undertaking these obligations, the cotton producer was to receive from the Government a payment which would amount on the average to about $4\frac{1}{2}$ cents per pound on the cotton which would have been produced on the acres rented to the Secretary, based upon the five-year average production, 1928-32. Naturally, the signing of a million individual contracts between the Secretary of Agriculture and growers of cotton required an immense amount of organisation and administration. This organisation was carried out by means of local committees of cotton producers operating under the guidance and with the assistance of the so-called county agents, whose functions previously as employees of the Department of Agriculture had been largely to give advice to farmers on technical problems of production. These local committees carried on the tremendous sign-up campaign, as it was called. The signed contracts were later sent to Washington, where they were checked up and, if found valid in all respects, were the basis upon which benefit payments were made to the cotton-grower.

By the terms of this contract a landowner who was also the operator of a cotton-producing farm would on the average have received a payment of about \$7.85 per acre on the land withdrawn from cultivation¹. Viewed strictly as rent, this would have been a very liberal compensation, since it was much larger than the average rent which he could have obtained from this land. How-

¹ The average production of cotton in the United States during the five year period used as a base in the cotton contract was 174 pounds per acre, 174 times $4\frac{1}{2}$ cents equals \$7.85.

ever, this sum was by no means considered as pure economic rent, since it was intended to compensate producers for labour and capital withheld from production as well as for land withheld from production. Since it was not feasible to make contracts for withholding labour and capital, it was necessary to attach payments to land used in the production of basic commodities. As a consequence, some very troublesome problems have arisen in connection with the division of the benefit payment between landlord, tenant, and labourer. Various clauses protecting the interest of tenants and labourers have been written into the different contracts, but it is obvious that since payments are attached to land, it will continue to be a problem to see to it that the non-landowning farmers participate in the benefits of the programme.

The source of the benefit payments to the cotton producer was from taxes levied on the first processing of cotton. The domestic manufacturer of cotton articles pays a tax in proportion to the quantity of raw cotton entering into the article in question. Cotton sold for export does not pay this processing tax, and articles manufactured from cotton and sold abroad have no tax levied on them either, since a rebate is allowed for manufactured articles entering into foreign commerce¹. This means, of course, that American cotton can be purchased more cheaply by the foreign manufacturer than by the American manufacturer for the domestic market, but it differs fundamentally from dumping because it is accompanied by a programme of reduction of production, so that it is not a device by which the proportion of American products sold on the foreign market is increased. It is primarily a means of establishing a new relation between the international and the domestic cotton price, so that the internal price can be controlled without prejudicing the position of American cotton on the international market.

During the early summer of 1934, while Congress was still in session, fears began to be expressed that the reduction programme for cotton was not going to be adequate. Consequently, a Bill for the compulsory reduction in the cotton crop was introduced into Congress. This Bankhead Bill, as it was called, provided for a tax of 50 per cent of the market value of cotton raised by any planter in excess of an allotment to him. The total allotment of cotton which could be grown free of tax by all growers of cotton was set at ten million bales. Each grower

¹ The amount of the processing tax on cotton was set at 4.2 cents per lb net. This is the equivalent of about 4 cents per lb on raw cotton.

was allotted a certain portion of these ten million bales. The individual grower's allotment was based upon his average production during the previous five years. As a device for enforcement of the Act, growers were given exemption certificates on their allotment, while tax tags had to be purchased for all above this amount. They were allowed to sell these certificates to growers who produced more than their allotment, in case the crop of the original holder of the certificate was below his allotment. The purpose of the Act was to insure that total production in the United States would be reduced as nearly as possible to ten million bales.

This Bankhead Act was passed by Congress, and in effect was superimposed upon the already existing adjustment programme provided for by means of the voluntary contracts and the processing tax-benefit payment system. A somewhat similar law applying to tobacco called the Kerr Act was passed also.

Contrary to expectations, the drought, plus the reduction programme, reduced the production of cotton to only 9,443,000 bales¹. At once there arose considerable agitation for the suspension of the Bankhead Act. Curiously enough, the agitation for its suspension came primarily from the Old Cotton Belt in the south-east, from whence the sentiment for the enactment of the law had originally come. This was due to the fact that the south-eastern states had a larger yield per acre than was normal, while the south-western, or New Cotton Belt, had a greatly reduced production. The south-eastern states did not relish having to pay the tax on their increased production, while the south-western states saw an opportunity to sell tax-exemption certificates, which they did not need, to cotton planters in the south-east.

The contracts for controlling production of wheat, tobacco, and corn-hogs were similar in principle to the cotton contract. In detail they differed materially. Numberless questions arose during the period of signing the contracts and while the contracts were in force. These questions had to be answered by regulations which were developed and issued as the problems arose.

III

In addition to the mechanism for regulating the production of basic commodities through the system of processing taxes and benefit payments, the control of production and of price of a

¹ Estimate of October 1—Crop Reporting Board, Bureau of Agricultural Economics, United States Department of Agriculture

large number of agricultural products was carried on through a series of marketing agreements. As a matter of fact, the system of processing taxes and of benefit payments was not even applied to all of the agricultural products which were designated as basic under the Act. The control of production and price of rice was carried out by means of a marketing agreement. In the case of dairy products, also, the effort to raise the price of milk to the producer took the form primarily of marketing agreements. To the extent that these marketing agreements affected processors and distributors, they overlapped to some extent the codes which were negotiated by the National Recovery Administration. Considerable attention had to be given, consequently, to coordinating the functions of the two administrations.¹

The marketing agreements for dairy products are quite

¹ Under an Executive order issued June 26, 1933, which since has been amended, the work of the Agricultural Adjustment Administration was coordinated with that of the National Recovery Administration in so far as codes of fair competition for foods and food stuffs were concerned. Provisions of these codes relating to wages, hours, or conditions of labour remained under the National Recovery Administration.

The Executive order of June 26, 1933, was amended by an Executive order issued January 8, 1934, which transferred to the National Recovery Administration most of the codes of fair competition originally placed under the jurisdiction of the Secretary of Agriculture. Under the terms of the new Executive order, the Secretary of Agriculture now has jurisdiction, except for labour provisions, over codes for the following:

(1) Commodity exchanges, (2) industries, trades, and subdivisions thereof engaged principally in the handling, processing, or storing of (a) milk and its products, but excepting packaged, pasteurised, blended, and/or processed cheese, (b) oleomargarine and vegetable oils, but excepting soya bean oil, (c) cotton and cotton-seed and their products, including ginning, cotton seed crushing, and cotton-seed oil refining (excluding the manufacture of textiles and processing and handling subsequent thereto), (3) industries, trades, and subdivisions thereof engaged principally in the handling, processing, or storing up to the point of first processing and the subsequent sale and disposition by such processors of (a) live-stock and its products, (b) wheat, corn, rice, and other grains, but excepting cereals, pancake flours, self rising flours, cake flours, and like products sold in grocery store sizes, and grocery store products of corn, (c) sugar and its by products, (d) anticholera hog serum and virus, (e) naval stores, (f) tobacco and its products, (4) fresh fruits and vegetables and poultry and poultry products up to and including handling in wholesale markets and the subsequent sale and disposition by such handlers in wholesale markets.

The Executive order of January 8 specified that the codes of fair competition under the National Recovery Administration for industries engaged in the processing, handling, or storing of agricultural commodities up to and including first processing, should not without the consent of the Secretary of Agriculture include provisions relating to prices, brokerage fees, commission rates, credit and financial agreements with producers, purchasing arrangements with agricultural producers, marketing quotas, or the allocation of plant capacity. These matters were to be covered in marketing agreements under the Agricultural Adjustment Administration rather than in the codes of fair competition under the National Recovery Administration.

complicated. Separate marketing agreements apply to the different milk sheds which supply milk for specified areas. There are several hundreds of these local fluid milk marketing agreements in addition to a few marketing agreements for butter, cheese, dry milk, and evaporated milk, which are usually on a national rather than a local basis.

These agreements were usually based upon state or local agreements and practices already in existence in the various milk sheds. These milk marketing agreements were contracts between producers and distributors. The instrument for their enforcement was the issuance of licences to all producers and distributors which could be withdrawn upon violation. Where a majority of the producers and distributors in a milk shed desired a marketing agreement, a licence was issued to all producers and distributors, whether they actually signed the agreement or not.

The original agreements often provided for minimum prices to both producers and distributors, but serious consumer dissatisfaction and other problems which arose resulted in abandoning the fixing of minimum retail prices as a general principle. Minimum retail prices have been retained only in a few instances where producers have formed associations for marketing their own products, and where as a result extremely severe competitive situations exist.

Distributors who purchase their supplies of milk from producers are required to pay a fixed minimum price to producers for milk. The prices which are paid depend upon the class of milk. There are usually three classes of milk provided for in the agreement: the highest price is paid for milk which is sold as fluid milk, and the lowest price is paid for surplus milk sold to be processed into butter. The main purpose of this classification of milk is to obtain the highest price possible to the producer, since fluid milk can be sold at a higher price than milk which is sold for other purposes. There is no difference in quality in the three classes of milk.

Different minimum prices are set for milk in the various milk sheds. The minimum prices stipulated in the agreements for the New York, Philadelphia, Baltimore, and other eastern milk sheds are, of course, higher than those set for the Minneapolis, Milwaukee, and other western milk sheds. No boundary lines for milk sheds are specified in the new agreements. Producers who were selling milk in a given market prior to the effective date of an agreement, continue to have full privileges of the market. New producers are required to sell their milk at the surplus price

for a period not exceeding 90 days in order to qualify Farmers living outside the main milk sheds who are so far away from market that they cannot sell fluid milk, have always had no alternative except to sell their milk at a price determined primarily by the price of its butter-fat content. Producers who sell within the milk sheds around the great cities obtain a price for a portion of their milk that is substantially above the price of the butter-fat content. As a result of the new agreements the Agricultural Adjustment Administration no longer assists in maintaining artificial boundaries to the milk sheds, which in effect were becoming tariff walls.

During the spring of 1934, an effort was made to work out a method for the application of the system of processing taxes and benefit payments to the dairy industry. Largely on account of the conflict of interest between the producers in the more favoured milk sheds and the producers who had to sell their milk at the value of its butter-fat content, it proved impossible to obtain a general enough agreement on the part of dairy farmers to put into effect one comprehensive scheme which would cover all milk producers, consequently, the tentative plan that would have been drawn up was abandoned and the system of marketing agreements has been continued.

The marketing agreements were also used to cover a multitude of special crops. To cite only a few, marketing agreements were drawn up to cover the canning of cling peaches in California, the distribution of walnuts produced in California, Oregon, and Washington, the shipping of fresh deciduous tree fruits, except apples, from California, the shipping of fruits from the North-western States, and the shipping of Tokay grapes from California. Numerous other agreements covering the production of fresh and canned vegetables including peas, tomatoes, asparagus, and many others have been completed or are in process of negotiation.

Choosing the marketing agreement for canned cling peaches in California as an illustration, in 1932, the year prior to the enactment of the Agricultural Adjustment Act, less than one-half of the crop of peaches was harvested, and the growers received for this proportion of the crop approximately \$6.50 per ton, which represented little more than the cost of harvesting peaches. In 1933, estimates of the crop indicated that enough peaches were available to pack about thirteen million cases. A marketing agreement under the terms of the Act was effected whereby the pack was limited to ten million cases, and each canner was given

an allotment to pack a certain quantity of fruit based upon his previous sales record, potential sales ability, and outstanding contractual commitments. The agreement provided that the canners would pay growers \$20.00 per ton for peaches used for canning, and then, in addition, they would contribute to a surplus control fund to be used to compensate growers for the peaches which were not harvested, namely, the peaches above the quantity required to pack ten million cases. Growers whose peaches were not canned received \$15.00 per ton for their peaches. The difference between this price and that paid for peaches canned represented approximately the saving in harvesting cost on the peaches which were not harvested. The prices for sale by canners to wholesalers were set at \$1.35 to \$1.50 per case.

Under this agreement the total returns to growers in 1933 amounted to five million dollars as compared with \$906,000.00 in 1932.¹

Certain problems arise in connection with the future planning and administration of marketing agreements. Is it sound national policy to allow producers to set prices at the point which will simply yield them the highest net return? Even if this is sound policy for pricing agricultural commodities as a whole, is it sound policy in respect to each individual commodity? If the growers of a number of specialised crops are successful each in getting a larger net return, may not the number of consumer dollars available for the purchase of other agricultural products be reduced thereby? These problems and others related to it must be considered by the Agricultural Adjustment Administration in determining future policy.

IV

In addition to the control of production and of price carried out by means of the processing taxes and benefit payment system, and the marketing agreements, there have been during the life of the Agricultural Adjustment Act a number of measures taken which have more directly affected price and production than either the processing taxes, benefit payment system, or the marketing agreements. These have included the purchase on the market of agricultural commodities, as well as loans on these commodities.

¹ The marketing agreement for canned cling peaches can hardly be taken as representative of all marketing agreements, however, since the limited area and the lack of competition of other areas in the production of this type of peach made it possible to control price and quantity to an extent which would be impracticable in the case of many other special crops.

Because of the critical situation which existed when the Agricultural Adjustment Act was passed, an emergency hog programme and an emergency cotton programme were carried out by methods not fundamentally associated with the principles or mechanism of the Act. These two programmes involved a certain amount of destruction of commodities which had already been produced. Thus over six million little pigs and old sows were purchased by the Agricultural Adjustment Administration with the purpose of bringing about an immediate reduction in the numbers of hogs which would be brought to market in succeeding months. Premiums were paid on sows with pig and on pigs below a certain weight, with the object of bringing about a maximum reduction in the weight of pork to be marketed in succeeding months. The edible pork products obtained from the slaughter of these animals were donated by the Agricultural Adjustment Administration to the Federal Emergency Relief Administration for distribution to the unemployed.

Contracts were made with growers of cotton to compensate them for ploughing up 10,400,000 acres of the 1933 crop ¹. These two measures in respect to hogs and cotton were regarded only as emergency measures, since the price situation of pork and cotton was so serious that the Administration felt that action could not be delayed long enough for agreements to limit future production to affect the market. The general policy of the Agricultural Adjustment Administration has been to avoid as a matter of principle the destruction of commodities or of growing crops.

One of the early decisions of the Agricultural Adjustment Administration was to provide for a loan on corn in the hands of farmers amounting to 45 c per bushel. This was also an emergency measure. The amount of this loan was greatly in excess of the market price of corn. Considerable fear was expressed at various times by critics of this action that the Government would be unable to liquidate this corn loan without great loss ². As matters turned out, however, it was one of the most fortunate of all measures taken by the Agricultural Adjustment Administration.

The price of corn was supported by the loan policy at a price

¹ It is estimated that these acres would have produced 4,400,000 bales. After this acreage was ploughed up the acreage which remained produced 13,177,000 bales.

² This loan, like the other loans on corn and cotton, was without recourse. That is, the Government directly assumed all risk due to a possible decline in market price below the level of the loan value.

high enough to discourage somewhat its feeding to live-stock. As a consequence, supplies of corn were maintained at somewhat higher levels than would have been the case had there been no corn loan. These supplies of corn were a godsend to farmers on account of the drought which cut the corn crop of 1934 almost in half. The price of corn rose far above the loan value which the Government had placed upon the corn, and it is now certain that the loans will be liquidated without any loss to the Government due to low market price of corn. A new corn loan was announced in September 1934 for the new crop with the purpose of enabling farmers who had corn to sell to hold it off the market until prices would be higher than at the time when the new crop first started the market.

Similarly, successive loans, first at 10 c per pound for the 1933 crop, and of 12 c per pound for the cotton of the 1934 season, were made available to cotton-growers. Substantial profits accrued to growers of cotton from these loans. Their popularity among the farmers is a possible source of danger, since too much reliance may be placed on them to hold up prices. A loan value on cotton, for example, which kept the price of cotton so high as to materially diminish sales of American cotton abroad would have serious consequences.

Substantial amounts of butter and cheese, as well as pork products, have been bought from time to time by the Agricultural Adjustment Administration. These commodities were bought for the purpose of supporting the market, and they were then turned over to the Federal Emergency Relief Administration for distribution to families on relief. In the case of most of these purchases, the Agricultural Adjustment Administration paid the first costs of the commodities, while the costs of processing and the distribution were paid by the Federal Emergency Relief Administration.¹

The funds for the purchase of these commodities were derived from various sources. Those for the purchase of pork, for example, were obtained from the processing tax on hogs. For a few of the commodities purchased the Federal Emergency Relief Administration paid all costs. This was true where no funds from processing or from other sources were available to the Agricultural Adjustment Administration. The Federal Emergency Relief Administration purchased a certain amount

¹ The Agricultural Adjustment Administration had paid out \$45,489,408 for the purchase of hogs and \$11,549,439 for the purchase of butter and cheese up to September 1, 1934.

of these commodities out of their own funds, partly to remove pressure of surplus as a benefit to agriculture, but primarily because these commodities could be obtained at very low cost

Perhaps the most comprehensive direct purchase programme carried out by the Agricultural Adjustment Administration was the purchase of cattle, sheep, and goats in the drought area. The drought of 1934 was by far the worst in the history of American agriculture. The corn crop was the smallest since 1881. The hay crop was only 67 per cent of the average annual tonnage harvested during the preceding ten seasons. The wheat crop was 497,000,000 bushels, compared with a five-year (1927-31) average production of 886,000,000 bushels. The oats crop was only 546,000,000 bushels, compared with an average over the same period of 1,187,000,000 bushels. Barley production was 122,000,000 bushels, compared with an average of 270,000,000 bushels. The total production of the four principal feed grains was estimated at about 52,000,000 tons, which was 46 per cent below the average production during the previous ten years. Condition of pastures on October 1 was the poorest of which there was any record.¹

As early as June the Agricultural Adjustment Administration began to buy cattle in the states of North Dakota, Minnesota, South Dakota, and Montana. The alternative to the purchase of these cattle would have been to let them die, for not only grain, forage, and pasture were lacking, but in many cases water was lacking as well. The drought which had begun in the north-west spread into the south-west, and the disastrous situation in June in the north-west was repeated in July and August in the south-west. During the most critical period for the growth of the corn crop, the drought struck the western corn belt. In the states of Kansas, Nebraska, and Missouri, which were all important corn-producing states, production fell to unbelievably low levels. In Kansas, for example, where the average production for 1927-31 had been 137,700,000 bushels, the indicated production as of October 1, 1934, was only 10,492,000 bushels.²

It was found necessary to continue the cattle-buying programme without interruption. By October 13, approximately 7,000,000 cattle had been purchased by the Agricultural Adjustment Administration. It appeared that these purchases plus the unusually large marketing of cattle through commercial

¹ Estimate of October 1, Crop Reporting Board, Bureau of Agricultural Economics, U S Department of Agriculture

² *Ibid*

channels and the governmental programme for the eradication of tuberculosis and Bang's disease by the purchase and slaughter of infected cattle, would bring about a net reduction in cattle numbers of at least 10,000,000 by January 1, 1935 ¹

The average price paid for cattle purchased was about \$13 50 per head ² Since this price was paid to farmers for cattle on the farm, it represented a price much above what they would have obtained if they had had to sell their cattle on a market demoralised by huge shipments of cattle from the drought areas In fact, it would have been impossible to have sold large numbers of them at any price They were paid for by the Agricultural Adjustment Administration, partially out of funds appropriated by Congress for use in stabilising the cattle industry, and partially out of funds specially appropriated for drought relief These cattle were turned over to the Federal Emergency Relief Administration, which paid for their cost of transport and the cost of processing them into canned beef out of funds appropriated by Congress for drought relief The canned beef, obtained as a result of this programme, is being used by the Federal Emergency Relief Administration for distribution to families on relief ³

In addition to the purchase of cattle, a fund of \$100,000,000 was allocated to the Farm Credit Administration to be loaned as emergency feed loans to farmers in drought areas These funds were loaned without security and enabled farmers to keep cattle through the winter which they would otherwise have had to let die or would have had to dispose of, if they could dispose of them at all, at ruinously low prices

The entire programme prevented a catastrophic reduction in cattle numbers, since the early intervention of Government removed large numbers of cattle which would otherwise have lived several months longer, and which would have helped to eat the seriously inadequate supplies of food-stuffs

The effect of the drought upon the Agricultural Adjustment programme was profound At first it appeared that the effects of the drought might be used successfully as a means of attack on the Agricultural Adjustment Administration by its opponents

¹ The total number of cattle in the United States as of January 1934 was between 67 and 68 millions Crop Reporting Board, Bureau of Agricultural Economics, U S Department of Agriculture

² A total expenditure by the Agricultural Adjustment Administration of \$107,000,000 for this purpose is contemplated

³ During September the Government purchase of live stock was extended to sheep and goats, with the intention of purchasing about 4,000,000 of these animals

In fact, this attempt was made. Occasionally, in out-of-the-way areas, some farmers proclaimed their fear that the drought was the judgment of God upon them for attempting to restrict the production of crops. Sometimes these utterances were seized upon by the part of the press hostile to the Roosevelt Administration as a weapon to use against it. However, these attacks had little effect on the sentiments of the agricultural population.

In the drought areas, almost the only income which many farmers had was from the sale to the Government of cattle, which would otherwise have died, and from the cheques which they received from the same source for restricting production. The drought had, however, in many cases restricted production almost to zero, so that these farmers received what appeared to them to be a sort of crop insurance which partially covered their losses. In the areas which had good crops the high prices which the drought occasioned brought these farmers larger returns than they had had for years. Consequently, the effect of the drought had almost no net adverse effect on the feeling of farmers towards the programme of the Agricultural Adjustment Administration.

Nevertheless, the experience of the drought served to impress upon the officials of the Department of Agriculture the desirability of providing adequate reserves against the recurrence of such an emergency. Consequently, efforts are being made to work out a system of reserves so that future adjustment programmes could be carried out without fear of producing a serious shortage of food or feed-stuffs. These tentative plans have come to be known under the term "Ever-Normal Granary Plan."

The general principle behind production control both by marketing agreements and by means of processing taxes and benefit payments is, of course, that of an attempt to increase total returns to producers through limiting quantity produced. Let us see how this attempt has worked out in practice. Beginning with cotton as an illustration again, we find that as a result of the cotton acreage production control programme of 1934, cotton acreage was reduced by about one-third.¹

¹ A total of about 28 million acres of cotton was planted to be harvested in 1934. All but about 4 million acres of this was covered by acreage reduction contracts. The signers of contracts agreed to reduce their acreage by about 14½ million acres from their base acreage computed as their average acreage during the five years 1928-32. The average acreage reduction from the base acreage of all contract signers was about 38 per cent.

The corn-hog contracts which were signed by slightly over one million growers resulted in a reduction in corn acreage planted of about ten million acres, or about 10 per cent of acreage in the previous year, and a sharp reduction in hog numbers ¹ The reduction in wheat acreage amounted to about five million acres The reduction in tobacco acreage was about half a million acres from the 1927-31 five-year average, or a reduction of about 28 per cent ²

The number of acres which the contract signers agreed to withhold from production was in almost all instances greater than the net reduction in acreage which was obtained This was due to the fact that some farmers who had not previously grown wheat, for example, and did not, therefore, sign a reduction contract, chose to grow wheat in the 1934 season In addition, a considerable number of producers whose production was so small that they did not consider it worth while to sign contracts, expanded their acreage somewhat In the case of wheat, the growers of wheat signed contracts by which they agreed to withdraw $7\frac{1}{2}$ million acres of land formerly producing wheat from production Production of wheat by non-contract signers increased by about $2\frac{1}{2}$ million acres, so that the net reduction obtained was only about 5 million acres, or about $7\frac{1}{2}$ per cent of the total wheat acreage

The effect upon price of the reduction which was obtained by means of these contracts was obscured by the great drought which blighted American agriculture during the year 1934 As a result of both the drought and the acreage reduction programme, the production of corn in the United States was reduced from an average for the period 1927-31 of 2,516,000,000 bushels to 1,485,000,000 bushels for 1934, the production of wheat from 886,000,000 bushels to 493,000,000 bushels, of cotton from 13,047,000 bales to 9,443,000 bales, of tobacco from 1,471,000,000 pounds to 1,385,000,000 pounds ³ By far the greater amount of the reduction in production of corn and wheat was due to the drought, while the greater portion of the reduction in the production of cotton and tobacco was due to the reduction programme This difference is due to the circumstance that wheat

¹ According to the estimate of the Crop Estimating Board of July 1st, corn acreage was reduced from 102,397,000 acres in 1933 to 92,526,000 in 1934 The 1933 acreage was about the same as the ten-year average

² These acreages were all lowered somewhat by the drought after the estimates given here

³ Estimate of October 1—Crop Reporting Board, Bureau of Agricultural Economics, U S Department of Agriculture

and corn are produced primarily in states greatly affected by the drought, while both tobacco and cotton are produced in states which were relatively little affected by the drought of this year

The effect of this sharp reduction in production of these commodities was, of course, to bring about much higher prices. Not only did prices rise, however, but the entire statistical position of the important agricultural crops was radically altered. The reduction programme had been begun largely as a means of eliminating what were called "burdensome surpluses." It had been generally recognised that with ordinary yields per acre, the removal of these surpluses would require production reduction carried out through several seasons. But the intervention of the drought, almost at a stroke, solved the surplus part of the problem. The surpluses of corn and hogs completely disappeared. The carry-over of tobacco, cotton, and wheat was reduced to an amount very little above that which might be considered normal.

It is interesting to apply the measuring rod of parity prices as defined in the Act to the new situation. Using the base 1910-14 as 100, the prices received by farmers for products which they sold stood in February 1933 at 55, while prices paid by farmers for commodities purchased stood at 101. The ratio between these two prices, which is used to measure parity prices, thus stood at 54.

One year later, February 1934, the index-number of prices received by farmers for products sold stood at 83, and the index of prices paid stood at 119, with a ratio between the two of 70. By August 1934 the index-number of prices received had risen to 96, of prices paid to 123, and the ratio between the two was 78. Thus, in August 1934, farm prices in general were 22 points away from parity.¹

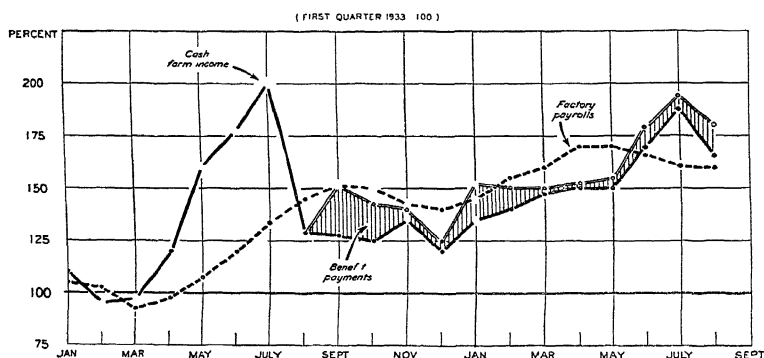
It should be pointed out, however, that in addition to the improvement in farm income which would be indicated by this rise in the parity ratios, farmers had received large sums in benefit payments as well.² In other words, the total return obtained by the farmer for the sale of commodities was not only the price received in the market for these commodities, but the additional sum in benefit payments which the Government paid directly to him out of the receipts from processing taxes. The

¹ These data are from Index-Numbers of Prices Received by Farmers, 1910-34, as Revised 1934, Bureau of Agricultural Economics, U S Department of Agriculture, September 1934.

² During the first seven months of 1934 these amounted to approximately \$170,000,000.00. By the end of the year more than \$300,000,000 in additional benefit payments will be paid to the signers of acreage adjustment contracts.

part played by benefit payments in farm income and a comparison of the movement of farm income and industrial pay-rolls is shown in the accompanying chart. The price of cotton during August 1934 was 13 1 c per lb, but added to the 13 1 c per lb which the farmer received would be the amount of benefit payments which he received from the proceeds of the processing tax levied on cotton sold on the domestic market. For the farmer who had signed an adjustment programme contract with the Secretary of Agriculture, the benefit payments which he would receive during the year would raise his total return per pound

FARM INCOME AND FACTORY PAY ROLLS SINCE JANUARY 1933



Note—This chart was compiled by Louis Bean, Economic Adviser, Agricultural Adjustment Administration. *News Digest*, Agricultural Adjustment Administration, Vol 2, No 1, Oct 6, 1934

approximately to the pre-war price of cotton during the period 1910-14 of 15 3 c per lb. However, this computation is in terms of dollar price only, and is not adjusted to allow for the increase in prices paid by farmers for commodities over pre-war prices. Furthermore, the price per pound is for a production of almost 5½ million bales less than the average production during the five-year period (1928-32) preceding the enactment of the Agricultural Adjustment Act. Contract signers are also receiving approximately parity prices for the proportion of wheat, tobacco, and corn sold domestically when benefit payments are added to market price.

Farm income for 1934 is estimated at about six billion dollars, which is an increase of 19 per cent over 1933, and of 39 per cent over 1932. However, this increase has been partly offset by an increase in the price of goods purchased by farmers. This index

has risen from 107 (average prices of 1910-14 equal 100) for the year 1932 to 123 for the month of August 1934 ¹

The effect of the Agricultural Adjustment policy on the consumer is obscured by the effects of the drought and other factors not directly the result of the policy. The most significant measurement is, of course, the movement of retail costs of food between the time when the Roosevelt Administration took office and the present time. Between February 1932 and the middle of September 1934, the retail cost of food in the United States ² increased from an index of 105.3 to 116.8 (1913 prices equal 100). It is likely, however, that owing to the aftermath of drought, the prices of pork and beef will go higher during the next year, so that we may expect a somewhat further rise in the index.

Over against this increased retail cost of food to the consumer of a little less than 11 per cent must be placed the revival of purchasing in the agricultural districts which has accompanied improved farm income. Practically all statistical data which measure movements of purchasing power geographically indicate that the purchase of industrial products in the agricultural areas has significantly revived. Purchases of automobiles, sales of mail order houses, bank clearings and other similar data show that the revival of purchasing power has been greater in the agricultural areas than in the industrial areas.

Since the operations of the Agricultural Adjustment Administration to date, together with the effects of the drought, have largely eliminated abnormal carry-overs, the Administration is faced sooner than it expected to be with the problem of a permanent programme for American agriculture. As long as abnormal surpluses were in existence, they weighed down market prices even though these surpluses did not actually pass through the market mechanism. Their removal was an important factor in strengthening the price of farm products, both on the domestic and the international market.

The question now arises as to whether the production control programme should be continued after these surpluses have been removed. Obviously, there are limitations on what can be accomplished by production control. If production is limited beyond a certain point, the gains in increased price per unit may be offset by the decrease in the quantity sold. Consumer resistance to price increase naturally affects this problem. As

¹ The Agricultural Situation, September 1934, Bureau of Agricultural Economics, U S Department of Agriculture

² Data from the Bureau of Labour Statistics

the price of farm products approaches parity, this problem becomes more and more actual. Statistical evidence shows a close relation between the volume of industrial pay-rolls and the price of farm products. Until these pay-rolls increase, not only is it more difficult to obtain higher prices, but the higher prices are liable to be partially offset by reductions in quantities purchased or shifts in consumption to lower-priced foods.

On the other hand, the same forces which produced the surpluses before are likely to produce them again if control of acreage is not continued. If the production of feed grains is normal in 1935, the need for regulation of production for the following year is likely to be acute on account of the sharp reduction in live-stock numbers caused by the drought.

In deciding this problem it is necessary for the Administration to face the problem of just what could be expected from a continuance of processing taxes and benefit payments which provide the most effective method of control under the existing Act. The processing taxes which the Act now permits are measured by the difference between the existing market price and parity price as defined in the Act. But if parity prices were once attained, there would exist no spread on the basis of which processing taxes could be levied under the existing Act. This problem becomes acute even before parity prices are actually attained, for if the spread between parity price and market price is quite small, the funds available for benefit payments become too small to offer an inducement for reduction of acreage. It would be perfectly possible to amend the Act in order to provide for processing taxes on some other basis of computation, of course, or even to provide some other source out of which benefit payments could be made.

After the removal of the surpluses has been accomplished, market price would be directly affected by the processing taxes mainly to the extent that these processing taxes can be passed on to the consumer, so long as an important portion of the total supply has to be sold on the international market. If substantial amounts of cotton and of wheat are to be sold abroad, it is likely to be difficult to gain much by means of restricting production in the United States below the amount which the domestic and international market together had been accustomed to take, with the intention of securing a higher price thereby on the foreign market.

It would be relatively more difficult to do this in the case of wheat than of cotton, since it is easier for American wheat to

be displaced in the international market than American cotton. Even in the case of cotton, however, the extent to which American producers can benefit by reducing their cotton production is limited by foreign competition in the production of cotton and by the possibility of the use of cotton substitutes ¹ As a further condition of retaining the customary share of the foreign market, the domestic price would have to be allowed to adjust itself to the level of the international price so that the customary quantity would be offered for sale on the international market. Otherwise the international market for American cotton would shrink and a surplus would accumulate. Processing taxes which are used as an inducement for lowering production can affect the price through reducing supply, but reducing the supply on the international market offers distinct hazards.

There is, moreover, a basic problem to be faced in the future course of exports from the United States to be sold on foreign markets. The United States is not accepting enough goods and services from abroad to permit payment for the goods which we export. From a fundamental point of view, it is unallowable to attempt to increase exports abroad without increasing imports. To do so means one of two things: either a future crop of defaults of international obligations is thus planted, or else the price of the goods sold abroad must be forced down. The basic question which the nation must ask itself, however, is whether it actually wants the goods from abroad for which we propose to exchange agricultural and other products. If a country has a large number of idle factories and idle hands, it is futile to enlarge imports of goods which these factories and hands are capable of producing efficiently.

If we do not desire foreign goods and services in payment for our commodities, then, in a broad and general way, we might just as well dump the commodities in the ocean, or, still better, not raise them at all and put the former producers of the commodities on a direct instead of indirect dole. Until nations solve the fundamental contradiction of deficiency of purchasing power within their own borders, it is probably hopeless to expect

¹ During the 1933-34 season there was an increase of 13 per cent in world consumption of foreign cotton and a decline of 6 per cent in world consumption of American cotton. Exports of American cotton decreased 11 per cent during the same period. The Agricultural Situation, September 1, 1934, *op cit*. The primary cause of this shift in demand was probably not the programme of the Agricultural Adjustment Administration, but instead the progressive dwindling of purchasing power abroad in terms of American exchange. Even the devaluation of the dollar could not overcome this.

nations in general to provide an expanded domestic market for increased quantities of imports from abroad

In the process of developing the adjustment programmes for the next two years, an effort is being made to ascertain directly the sentiment of farmers in regard to carrying on the adjustment programme, and also to get some idea of the type of adjustment programme which the farmers prefer. During the month of October, a referendum of the corn and hog producers is being carried out. First returns from this referendum indicate a large majority in favour of continuing the programme. A referendum is also planned to determine whether or not the cotton-growers desire a continuance of the Bankhead Act.

According to tentative plans, the contract which farmers will be asked to sign in 1935 will not be strictly a reduction programme at all. Farmers are to be allowed to plant all acres withdrawn from production of basic commodities to feed and forage crops. It is obvious that from the standpoint of a permanent programme for agriculture, this is highly preferable to letting acreage lie idle. The depletion of soil fertility and the progress of soil erosion had become a matter for grave concern in the United States. It was all the more inexcusable that exhaustion of soil resources should be going on at a time when part of the quantity produced was not needed for production, but instead constituted sheer waste. In the process of producing agricultural products without regard to price, areas were put under the plough which should have remained in grass or in timber. In the cattle country the ranges were overstocked and the stand of native grasses was being impaired by over-grazing. In so far as any future adjustment programme increases the percentage of land returned to pasture or planted to feed and forage crops, it will be effective in restoring soil fertility and preventing erosion. Such a programme would be highly desirable, quite apart from its connection with the control of price.

CALVIN B. HOOVER

Duke University

THE "NEW DEAL" IN THE UNITED STATES

II INDUSTRIAL RELATIONS

PRESIDENT ROOSEVELT'S recovery programme, particularly the passing of the National Industrial Recovery Act in June 1933, marks the beginning of a new period of industrial relations in the United States, a period in which industrial peace has been disturbed by disputes of increasing bitterness. At first glance the outbreak of labour unrest may seem somewhat surprising at a time when hours of work were being drastically reduced, minimum wages for unskilled workers considerably increased, and the status of trade unionism substantially improved. The Trade Union movement is, indeed, grateful to the Government for these changes, hailing the National Industrial Recovery Act as a *magna charta*, and it desires to avoid hampering the Government in its efforts to secure a return of prosperity. Yet industrial disputes have been frequent and have given the Government continuous anxiety.

These disputes have been due partly to dissatisfaction of skilled workers with rates of pay, which, they claim, have not been appropriately adjusted to increases in the cost of living or to reductions in hours of work. The chief cause of disputes, however, has been disagreement between employers and workers about trade union recognition and the right to collective bargaining accorded to the workers by the National Industrial Recovery Act. The present article reviews these issues, dealing in succession with the state of industrial relations before the passing of the Act, the effects of the Act upon trade union policy and upon the attitude of employers towards trade union recognition, collective bargaining, and the closed *versus* open shop controversy, labour conditions under the codes of fair competition, methods adopted by the Government for settling disputes.

When President Roosevelt's Administration came into power the working conditions of roughly 80 per cent. of workers in

American industry were established by individual agreement, usually being fixed by management and accepted by the workers. This was in accordance with the prevalent individualistic attitude among employers that a man may do what he wills with his own. The undertaking was considered as belonging to the employer, who decided what rates of wages should be paid and the number of hours to be worked.

In undertakings employing about 7 or 8 per cent of the workers, schemes of employee representation were in operation. Membership was restricted to the employees of a single undertaking, representatives of the employees being elected to discuss working conditions and to ventilate grievances in a works council with the management of the undertaking. Some of these schemes had been in existence for many years. In 1919 schemes were known to be in operation in 145 companies employing over 400,000 workpeople, and by 1932 the number had increased to 313 companies employing 1,263,194 workpeople¹. Many of these employee representation plans were started with the object of checking the growth of trade unionism. The workers were told that thus they could gain all that a trade union could offer, that there were no dues to pay, and that trade union officials were more interested in collecting dues out of which to pay their salaries than in promoting the interests of their members. Apart from this negative reason, employee representation plans provided a convenient method of communication and consultation between management and workers, especially in large undertakings. By the trade union movement, however, they were viewed with bitter hostility, being regarded as instruments of company domination over the workers, and they were stigmatised as "company unions."

Only about 10 or 12 per cent of industrial workers were employed under collective agreements between trade unions and employers. Most of these agreements were with individual firms, and not, as in Great Britain, national agreements between employers' organisations and trade unions. The industries in which trade union agreements were widely operative included building and railway transportation, the agreements applying mainly to skilled categories, while in many important centres agreements covered skilled and unskilled coal miners and clothing workers, in printing, textiles and one or two other industries agreements applied to between 10 and 20 per cent of the operatives. In the

¹ National Industrial Conference Board, *Collective Bargaining through Employee Representation*, 1933.

great manufacturing industries, however—iron and steel, automobiles, rubber, oil, chemicals—trade union agreements were practically non-existent, and attempts to open negotiations were strongly resisted by the industrialists

This situation largely reflected the state of trade union organisation, which in most American industries was extremely weak. In 1932 the number of trade unionists may be estimated at around 2,650,000, this being about equal to the membership in 1914-15. The movement had lost over three-quarters of a million members during the depression, there having been 3,444,000 members in 1929. Its peak had been reached in 1920, when the membership exceeded 5 millions. The numerical changes since 1914 have been closely parallel to those in Great Britain, though the American movement has always been much weaker than the British, especially if account be taken of the larger working population in the United States.

More than 80 per cent of American trade unionists were members of unions affiliated with the American Federation of Labour. The following figures show the general trend of the Federation's membership since the year 1900 ¹—

1900	548,321	1925	2,877,297
1915	1,946,347	1930	2,961,096
1920	4,078,740	1933	2,127,000 ²

The chief unions outside the Federation were four Railroad Brotherhoods, with a total membership of about 350,000 in skilled occupations (locomotive engineers, firemen and enginemen, conductors, and trainmen), and the Amalgamated Clothing Workers, with a membership of about 120,000. There were also a few communist unions with negligible memberships. Little was heard of that once famous and aggressive organisation, the Industrial Workers of the World.

The predominant type of organisation was the craft union of skilled workers. Of the 105 unions in the American Federation of Labour, 75 were craft unions, often cutting across the lines of industrial structure, 25 were semi-industrial and only the remaining few were industrial ³. When, at the 1933 Convention of the Federation, the Amalgamated Clothing Workers' Union, which

¹ The figures represent membership in respect of which affiliated unions paid dues to the Federation

² Average total membership during the year ended August 31, 1933

³ See *The American Federation of Labour*, by L. Lorwin, Brookings Institution, 1933.

had long been independent, was admitted to membership in industrial unionism within the Federation was appreciably strengthened. Nevertheless the Federation remained predominantly upon a craft basis, it catered mainly for skilled workers—the aristocracy of labour—and showed some of the exclusiveness of an aristocracy. It was conservative, monopolistic and non-socialistic in outlook, and was only just beginning to adopt a favourable attitude towards social legislation. With these qualities it is somewhat surprising that the Federation evoked such bitter hostility from the industrialists.

A source of weakness in the movement was internal disunion, and one of the important functions of the American Federation of Labour was to define the scope of each affiliated union so as to avoid conflict between unions in the recruiting of members. The craft basis was also a cause of weakness, for though it was suitable for organising workers in certain industries, *e.g.* building, printing and railway transportation, it was unsatisfactory in many manufacturing industries where most of the work was mass production performed by semi-skilled workers. The Federation had indeed shown lack of adaptation to changes in industrial processes, and this partly explains the weakness of trade unionism in the manufacturing industries.

Other reasons for this weakness included the individualistic outlook and lack of class consciousness among the workers. Further factors were the size of the country, high rate of labour turnover, changes in methods of manufacture, development of new centres of production, of which the movement of industry to the South was the most significant, and the mixture of races and traditions through incomplete assimilation of immigrants. To these must be added the tactics adopted by employers to prevent organisation of the workers. They included the use of the "yellow-dog" contract by which a worker in return for employment would undertake not to join a trade union,¹ there was also espionage, victimisation for trade union activities, the use of violent methods of strike-breaking, and, as already indicated, the establishment of employee representation plans as an alternative to trade unionism.

II

The situation outlined above was considerably changed by the National Industrial Recovery Act, and subsequent conflicts have

¹ This had become illegal by legislation passed in 1932

been largely caused by disagreement upon interpretations of its much-discussed Section 7 (a) ¹ This provides

(1) That employees shall have the right to organise and bargain collectively through representatives of their own choosing, and shall be free from the interference, restraint, or coercion of employers of labour, or their agents, in the designation of such representatives or in self-organisation or in other concerted activities for the purpose of collective bargaining or other mutual aid or protection, (2) that no employee and no one seeking employment shall be required as a condition of employment to join any company union or to refrain from joining, organising, or assisting a labour organisation of his own choosing, and (3) that employers shall comply with the maximum hours of labour, minimum rates of pay, and other conditions of employment, approved or prescribed by the President

Other subdivisions of Section 7 provide that, so far as practicable, every opportunity shall be afforded to employers and employees in any trade or industry to fix minimum rates of pay, maximum hours, and other conditions of employment by mutual agreement, and such agreements, when approved by the President, shall have the same effect as a code of fair competition, thus becoming legally enforceable

The first two provisions of Section 7 (a) appear to have been introduced partly because the Government was sympathetic with labour and considered that the workers were inadequately protected. It was believed that, by strengthening organised labour, the Government's policy of raising wage rates, increasing purchasing power, and reducing hours of work, with the object of restoring prosperity and increasing the number of persons employed, would be facilitated. Also these provisions were regarded as the *quid pro quo* for labour of the opportunity which the Act gave to employers to form trade associations, and the removal in their favour of some of the anti-trust restrictions

What do these provisions signify? They rule out the "yellow-dog" contract, accord to workers the right to join a trade union, and deny to employers the right to require a worker to become a member of a company union or to exercise discrimination against a worker because of his membership of a trade union. Workers are also entitled to bargain collectively through representatives of

¹ The Act was passed as an emergency measure, its chief industrial provisions remain in operation for only two years, and the present problem is to determine what parts of the system shall be put upon a more permanent basis. It was on grounds of national emergency affecting inter-state and foreign commerce that a Federal system for regulating labour conditions was introduced, in normal times the regulation of labour conditions is reserved for State legislation. The constitutionality of the Federal regulation of labour standards under the National Industrial Recovery Act has not been tested in the Courts

their own choosing¹ These consequences are widely admitted both by employers and workers Upon what issues then have conflicts arisen?

Some employers, either failing to understand the changed conditions or deliberately flouting the law in their hostility to labour organisations, have victimised workers on account of their trade union membership and activities, and strikes have sometimes resulted Complaints of victimisation or discrimination have been investigated by government machinery, and many workers have been reinstated This protection is a considerable gain to the trade unions, though in practice it is often difficult to decide whether a worker has lost his job because of inefficiency, shortage of work or some other legitimate cause, or on account of his trade union activities

The main disputes, however, have been due to more fundamental causes The employers rightly insist that although workers are entitled to join a trade union and to select representatives for purposes of collective bargaining from among members of the trade union, they are equally free to bargain individually with their employer or to use the machinery of the company union They claim that if the worker in making his choice is to be protected from coercion by the employer, he should be equally free from coercion by the trade union Organised labour considers that company unions are almost inevitably company dominated, whereas employers assert that they can suggest constitutions for company unions and accord facilities for their operation without exercising coercion or interfering with the freedom of their workers It is evidently difficult in practice to determine where reasonable facilities end and pressure by the employer begins, also when the employer's preference is clearly indicated considerable numbers of workpeople will be likely to acquiesce in the establishment of company schemes of representation in which they have little interest, and in these circumstances it may be impossible to produce evidence of undue influence by the employer.

If workers are free to choose between individual bargaining, collective bargaining by the company union method, and collective

¹ The right of the workers to organise with the object of bargaining collectively had long been established by court decisions In 1926 the Railroad Labour Act went a step farther, requiring the railway companies to negotiate with their workers' representatives, and preventing either party from exercising interference, influence or coercion over the self organisation or designation of representatives by the other The freedom of workers in organising and in selecting representatives from interference, restraint or coercion of employers was generalised by the so-called Anti-Injunction Act of March 1932, which also made illegal the "yellow dog" contract

bargaining on the basis of trade union membership, it is probable that in many undertakings some of the workers will prefer one method and others will favour the alternative systems. Is the method of bargaining to be determined by the preference of the majority of the workers or is a system of proportional representation to be adopted? Where an overwhelming majority of the workers prefer one method little difficulty arises, but if preferences are more equally distributed awkward situations may develop. Trade unions with a small majority claim that they alone should select representatives for collective bargaining, and generally object to joining with representatives of the minority because lack of unity would be inevitable and conflicts might arise among the workers which would prevent the reaching of satisfactory agreements with representatives of the firm. The alternative of two or more agreements negotiated independently by representatives of the several groups of workers is often rejected on the ground that it would be impracticable for different standards of working conditions to be in force for similar work within the same undertaking, this method is, however, feasible if one union represents a large majority of the workers of a particular craft, as it can negotiate upon conditions for all workers in the category concerned, while other representatives may negotiate about the conditions of workers in other categories or departments.

Two other questions have caused conflicts or differences. One is the refusal of employers to recognise the trade union, though they will agree to negotiate with persons who are in fact selected by trade union members and are prominent trade union officials. This may seem mere "hair splitting," but in some conflicts it has been made a question of principle by the employers,¹ they regard the persons as representing the workers in their own undertaking alone, while to recognise trade unions would, in their view, expose them to demands based on conditions in other undertakings and districts which might not be appropriate to their own conditions. By adopting this attitude they are, of course, objecting to a specially important *raison d'être* of the trade union. The second question is about the meaning of collective bargaining. The proper object of collective bargaining is to

¹ This was one of the difficulties in the dispute at the so called "captive mines," operated by subsidiaries of the Steel Companies. The dispute was terminated in January 1934 by a form of contract which evaded the issue whether, as a matter of law, the contract did or did not amount to recognition of the union. (See National Labour Board Release 2826.) The National Labour Board in the Buffalo Baking Company dispute decided that employees may choose to be represented by a union.

reach agreement, but collective bargaining does not necessarily result in agreements, for a breakdown may occur. The Act provides for collective bargaining, but does not, and could not, require agreement, though the Government might use its authority to impose standards of working conditions upon industry. Some employers have seized upon a literal interpretation of the Act, have given representatives of their workers an opportunity to state their demands to the management, and then, dismissing them without any further attempt to reach agreement, have claimed that they have met the requirement of collective bargaining !

III

Having summarised the main issues, the policies of the trade union movement and of employers since the passing of the Act are now reviewed. The collective bargaining clause of the Act was hailed with great enthusiasm by the trade unions, and a wave of organisation began such as has never been seen before in the United States. Within a few months there was an increase in membership variously estimated at a million to a million and a half, though an appreciable part of this accession of membership was unstable, workmen joining during an intense recruiting campaign in their area or at a time of conflict and allowing their membership to lapse when the organisers moved to another district or when the excitement of a dispute had died down.

Immediately, the clash between the craft and industrial basis of unionism emerged. Faced with a flood of recruits in the steel, automobile and many other industries provisionally grouped into over one thousand so-called "federal" unions along industrial lines, often at separate plants, the old craft unions began to demand their distribution among the existing unions, and it required all the skill of the more progressive leaders to prevent this inappropriate division of new members who were not generally craft-conscious¹. The progress of recruiting was also hampered by jealousy between unions about the limits of their respective fields of operation.

Meanwhile the industrialists were not idle. They quickly recognised that Section 7 (a) did not compel them to bargain with trade unions, but that individual bargaining and the company union method were equally legitimate if the workers were willing to use them. This was confirmed in official statements by General

¹ At its 1934 Annual Convention the American Federation of Labour adopted the principle of industrial unionism for mass production industries.

Johnson, then National Recovery Administrator ¹ As, however, the emphasis of the legislation was upon collective bargaining, many employers who had hitherto fixed working conditions by individual agreement felt that their position would be stronger if they adopted the policy of "collective bargaining through employee representation." Consequently there was a tremendous growth in the number of these company unions, so rapid was the movement that, by the end of 1933, the number of workers in undertakings where this method was in operation was said to be nearly three million compared with only one and a quarter million in 1932, the rate of increase being much greater than that of the trade union movement. The oil industry is almost completely organised in this way, while the method has been extensively applied in steel (in over 85 per cent of the industry), automobile manufacture, rubber, and engineering.

In presenting these plans for adoption the employers had to avoid methods which could be construed as involving interference, restraint or coercion upon the free choice of their workers, and many of the new plans were somewhat more liberal than some of the older ones had been, *e.g.*, providing for greater opportunities to discuss wages and hours. Some of the more individualistic employers regarded the adoption of such plans as a usurpation of management's powers, and feared that the general acquisition by the workers of the habit of collective negotiation might provide a stepping-stone to trade unionism, but many were convinced that employee-representation plans would be an effective method of checking the advance of organised labour.

Trade union organisation was also resisted by the issue of manifestos criticising trade union methods, policy and leadership. Wage increases were granted by employers, partly to show that when the situation was favourable working conditions could be improved without any need for pressure from organised labour. Also many firms tried to evade bargaining with the trade unions even when these claimed to represent a majority of the workers. They reasoned that though the trade union by an active campaign might temporarily secure a majority there was no certainty that it would retain its membership. They remembered previous periods of short-lived organisations, and preferred to bide their time instead of committing themselves to agreements which would have given great encouragement to the trade unions.

Consequently, although trade union membership was increasing rapidly, the unions made little headway in securing

¹ Statements issued on August 24, September 4, and October 10, 1933

recognition and in effecting agreements. In some industries, particularly steel and automobiles, in which the industrialists were leading the opposition to the unions, demands for effective collective bargaining were virtually ignored. The situation is illustrated by the results of an inquiry by the National Industrial Conference Board in November 1933 into methods by which companies dealt with employees.¹ The inquiry, which covered 3,314 manufacturing and mining companies employing an aggregate of 2,585,740 wage-earners, showed that 45·7 per cent of the workers had individual relations with the companies, 45 per cent were covered by employee representation plans and only 9·3 per cent by agreements between the companies and trade unions. This last percentage gives no indication of the percentage of trade union members, as many workers covered by individual bargaining and employee representation plans were also members of trade unions which had not secured agreements. Small firms were predominantly using individual bargaining, while in the larger plants employee representation plans were more important. About 60 per cent of the plans had been established after the passing of the National Industrial Recovery Act.

In their efforts to ensure the employer's right to deal individually with his workpeople and to obtain an "open shop" interpretation of Section 7 (a), the industrialists tried to insert clauses with this object in the codes of fair competition. The most determined effort was made by the automobile manufacturers, who, although they failed to gain direct approval of the open shop, were successful in securing the inclusion in the Automobile Code of the "individual merit" clause, which provided that "employers in this Industry may exercise the right to select, retain, or advance employees on the basis of individual merit, without regard to their membership or non-membership of any organisation".² In view of the determined attitude of the industrialists, this clause received the acquiescence, with qualifications, of leaders of organised labour (members of the Labour Advisory Board). They soon repented of this lapse and condemned the clause, saying that "among the industries now so keen for this clause are the very ones that in the past have decimated their labour forces to root out union men, all in the name of individual merit".³ Even General Johnson later stated

¹ National Industrial Conference Board, *Individual and Collective Bargaining under the N I R A*, New York, November, 1933.

² Code of Fair Competition for the Automobile Manufacturing Industry, as approved by President Roosevelt, August 26, 1933.

³ National Recovery Administration Labour Advisory Board, Release 585.

that he had permitted the insertion of the Clause "in an unguarded moment," and, finally, President Roosevelt decided not to approve in any code of fair competition the incorporation of this or other clauses purporting to interpret Section 7 (a), because of the confusion and misunderstanding resulting from such interpretations

IV

In the operation of the Act various interpretations of Section 7 (a) have been given in the settlement of disputes. These show inconsistencies, the Administration effecting compromises according to the circumstances of the dispute. In the Berkeley Woollen Mills dispute, August 1933, the main point of disagreement was the refusal of a demand by the trade union for recognition, the management stating that they would only recognise a union consisting solely of employees of the mill, and would deal with no representative of the employees unless the representative was an employee of the mill. The National Labour Board ¹—a body established to settle labour disputes—decided that employees have the right to choose anyone they may wish as their representative, and are not limited in their choice to fellow employees, and that the refusal of the management to deal with representatives of the employees, unless these representatives are workers in the mill, is an attempt to interfere with the employees in the designation of their representatives.

In the Denver Tramway case the point at issue was whether the employees should bargain collectively through representatives of a company union or of a trade union. After a secret ballot conducted by the National Labour Board, which showed a small majority in favour of the trade union, the Board decided that the trade union was the selected agency through which the employees would bargain with the management, any agreement reached must apply to all employees of the Company. In other disputes also the Board decided that representatives chosen by the majority of a labour should bargain for all the workers ².

Interference by the company with the free choice of representatives by its employees caused a protracted controversy at

¹ The constitution and functions of the Board are described in Section VI of this article

² These decisions differ from explanations of Section 7 (a) given by General Johnson and Mr. Donald Richberg, August to October 1933, supporting the right of minorities to negotiate separate agreements, but the majority principle was again upheld, in September 1934 in the Houde Engineering Corporation case, by the National Labour Relations Board, which had superseded the National Labour Board.

the Weirton Steel Plant, Pittsburgh. In October 1933 the Company agreed to the holding of an election to determine who should represent the workpeople, but instead of the election being supervised by the National Labour Board the Company conducted one in which about 80 per cent of the workers voted for the company union. The trade union employees immediately protested that the election had been unfair and made complaints of intimidation, and a substantial number of them then petitioned the Board to supervise a secret election. As, however, the Company made it clear that it would not deal with representatives selected at any election which the Board might supervise, the only course open to the Board was to refer the Company to the Department of Justice with a view to prosecution¹. This was typical of situations at other undertakings, including the Harriman Hosiery Mills and the Budd Manufacturing Company, some of which were settled by compromise after months of dispute, while others were referred to the Courts².

The Government was reluctant to bring many cases before the Courts, both because of the probable unfavourable effect upon public opinion and also because it was doubtful whether it would win its cases. The uncertainty of the Courts' attitude was indicated when in May 1934 the United States District Court at Wilmington, by which the Weirton Case had been examined, refused to issue an injunction to restrain the Company from taking any part in the election of its employees' representatives. The Court not only gave specific reasons for refusing the injunction, but declared that serious questions of law were involved, particularly the constitutionality of the National Industrial Recovery Act. In the Harriman Hosiery Mills case the Department of Justice reported that the Company had violated no law or code provision.

These disputes about trade union recognition at individual undertakings were mere skirmishes, though raising important questions of principle. Actually between August 1933 and March 1934 the National Labour Board and its Regional Boards supervised 240 elections, mainly at individual undertakings for the purpose of selecting representatives for collective bargaining, and had effected settlements in many other disputes. In more than two-thirds of the elections the voting showed majorities for the trade unions, thus resulting partly, no doubt, from the fact that demands for elections were made by the unions at times favourable to themselves.

¹ National Labour Board Releases, 3225 and 3556

² *Ibid*, 2283 and 3664

The first great industry-wide trial of strength on the question of trade union recognition was in the Automobile industry in March 1934, the dispute being of special significance both on account of its magnitude and of the terms of its settlement. The American Federation of Labour demanded recognition of its affiliated unions, which had made recent rapid gains in membership, and they also complained of victimisation of workers for trade union activities, for example, dismissal during seasonal slackness without being re-employed when trade became more active. The automobile companies maintained that their workers were generally satisfied with collective bargaining through employee representation plans established with the support of 80 per cent of the employees without coercion by the companies, and the National Automobile Chamber of Commerce stated that it would refuse to recognise any union affiliated with the American Federation of Labour as such or to sign contracts with it. They accused the Federation of un-American and unpatriotic activities, and of endeavouring to dominate the industry and establish a labour monopoly. The workers were warned that "the depression years will look like prosperity years if business must stagnate because of quarrelling labour leaders who have only their own selfish interests at stake." Of a leading Federation organiser it was said "The only thing he owns in Detroit is the suit-case he brought with him," while he and other trade union leaders were accused of having little or no interest in the welfare of the industry.

The dispute was finally settled by President Roosevelt, the chief terms of settlement being

(1) Agreement of the employers to bargain collectively with the freely chosen representatives of groups, and not to discriminate against any employee on the ground of his union labour affiliations

(2) If there be more than one group, each bargaining committee shall have a total membership *pro rata* to the number of men each member represents

(3) An impartial board with access to pay rolls and union membership lists, responsible to the President of the United States, shall be set up to decide upon all questions of representation, discharge and discrimination

(4) The Government makes it clear that it favours no particular union or particular form of organisation or representation, its only duty is to secure freedom of choice without coercion, restraint or intimidation from any source

(5) The industry understands that in reduction or increases in the number of workers, such human relationships as married men with families shall be given first consideration and then seniority, individual skill and efficient service. After these factors have been considered, no greater proportion of trade union employees similarly situated shall be laid off than of other employees

This settlement, which the President claimed as charting 'a new course in social engineering in the United States,' was a

compromise based on the principle of proportional representation instead of majority representation. The question of trade union recognition was left open, while the fourth provision above holds the balance evenly between trade union and company union. At first the labour organisers welcomed the settlement, it being a great relief to them that a stoppage had been avoided, but later, as they made little headway in securing collective agreements, they became disillusioned. In the early days of the National Industrial Recovery Act organised labour had counted on receiving Government support of trade union bargaining with employers, and were now disappointed that the Administration had not taken steps to outlaw employee representation plans as company dominated. Henceforth, they placed less reliance upon Government support, the resistance of employers stiffened, and conflicts became more bitter.

Other disputes need not be discussed in detail. Most of them have involved the trade union recognition issue, though in some the wage question has predominated. The railway dispute in March 1934, which was settled by a compromise, was about the restoration of a 10 per cent cut made in wage rates in 1932, in this industry the skilled workers' unions receive recognition, and methods of avoiding conflict operate under the Railroad Labour Act, 1926. In the Bituminous Coal Industry an important point at issue in the dispute of April 1934 was the wage differentials between South and North. The bringing into operation of wage scales narrowing considerably the margin between South and North led to such vigorous protests by the South that substantial revisions were made. It was admitted that Southern industry had been built up on the basis of differentials, and the Administration recognised that any sudden termination of established economic relationships would lead to confusion and hardship. Nevertheless, in this and other industries there has been a tendency towards reducing the differentials between South and North, and in announcing the terms of settlement of the Bituminous Coal dispute, President Roosevelt expressed the hope that standards of living in the South would continue to improve, and said that in the meantime Southern coal ought not to invade with its cheaper produce the area of higher wages and thus impose its lower standards. Measures were not, however, proposed to prevent this invasion, which would be the economic consequence of the differentials.

Towards the end of May 1934 extensive disputes threatened in iron and steel and in cotton, the chief trouble in the former

being trade union recognition, and in cotton the loss of earnings which would result from a reduction for twelve weeks of 25 per cent in machine hours with the object of bringing production into line with demand. This question caused discontent throughout the summer, but the textile strike of September 1934 was chiefly about trade union recognition. A strike of longshoremen on the Pacific Coast, which lasted several months and culminated in a general strike in San Francisco in August 1934, was mainly about the demand of the International Longshoremen's Union for higher wages and effective collective bargaining, the dispute was complicated by the question of the closed *versus* open shop which was raised by the demand of the union to control the hiring halls where labour is recruited. These and other disputes had the effect of making the year 1934 a period of exceptionally disturbed industrial relations.

V

Trade union recognition has been indicated as the chief cause of recent disputes, many of which have been the direct outcome of Section 7 (a) of the National Industrial Recovery Act and the consequent increased activity and insistent demands of the trade unions. A disturbed period was, however, inevitable as a result of dislocations and maladjustments arising out of the whole recovery programme, and particularly of the provisions of the industrial codes. Such vast economic changes could not be made without upsetting established relationships, some occupations and industries gained more than others, and the adjustment between money wages and cost of living was disturbed. Naturally those who found themselves worse off strove to recover their position. Many complaints of maladjustment arose out of the operation of the labour provisions of the codes, and it is therefore necessary to examine the chief effects of these provisions and the part played by organised labour in their establishment.

The great majority of codes (*e.g.*, 270 out of the first 300 to be approved) fix hours of work at forty per week or less. In many of them elasticity is arranged, thus in about one-third of the codes the hours are not fixed as a flat maximum, but are averaged over a period (sometimes of four weeks or even as long as three months), while a large majority provide for an extension of maximum weekly hours in periods of seasonal or other peak demand (*e.g.* up to forty-eight hours during six or twelve weeks in the year) or contain other overtime arrangements. Foremen and certain categories of workers—for example, repair crews—are

exempt The minimum age for employment of juveniles is fixed at sixteen years

In most industries minimum wage rates are 35 cents or 40 cents an hour or 12 to 15 dollars a week, the minima are often lower for Southern than for Northern States, and differences are sometimes arranged between other regions or according to size of town, while some codes fix different minima for men and women. The minima apply to the lowest class of labour in the industry.¹ Scales for categories of semi-skilled or skilled workers are rarely fixed, though most of the codes include a general provision for determining the rates to be paid to these categories. In some codes the provision is a fairly definite safeguard, while in others it is too vague to be of practical value. Thus certain codes provide for maintenance of the differences prevailing between the various categories of workers before the fixing of the code minima, some state that wage rates shall be adjusted so as to yield not less for a week of forty hours than was paid for the same class of work before hours were reduced. Others merely require equitable adjustment of wage rates above the minimum, or increases which will maintain a fair relation for the higher categories.

Relatively few disputes have been caused by the hours provisions of the codes, the general effect of which has been to reduce working time by about an hour a day. The policy of the unions is to secure a still shorter working week, with maintenance of earnings, as they believe this would increase the numbers in employment by sharing the available work.² Some groups of workers, however, have complained of the effect of reduced hours upon earnings, and demands have been made in some districts for a longer working week, as already indicated, the effect of shorter working time upon earnings caused protests accompanied by strike threats in the cotton textile industry. Other difficulties from the shorter working week have resulted where employers have endeavoured to offset the reduction in hours by increases in the speed of work. Complaints are also made that the system of averaging hours over extended periods has largely defeated the intention of spreading the work.

More disputes have arisen from dissatisfaction among skilled

¹ Lower rates may be paid to learners and apprentices and to workers suffering from physical or other handicaps.

² See *American Federationist*, April 1934, Address by William Green, President of the American Federation of Labour, on "Some Insistent Problems in Wages and Hours." At the Federation's Annual Convention in San Francisco, October, 1934, the delegates voted unanimously in favour of a thirty hour week for all industries.

and semi-skilled workers because of failure to increase their wages in proportion to the rise accorded to unskilled workers. The general effect of the minimum rates fixed for the unskilled seems to have been to prevent sweating, especially in the South, the code rates being a distinct advance from the low levels to which wages had fallen, but for skilled workers the elasticity of many code provisions has permitted extensive evasion of the Administration's intentions that earnings should be maintained with the shorter week and that existing differentials between skilled and unskilled should be continued. In many undertakings skilled categories have been regraded at lower rates of pay, while the increases accorded have been more than offset by reduced hours and increases in the cost of living. In consequence, the purchasing power of large numbers of skilled workers has declined.

Organised labour also protests that its participation in the drafting of the labour provisions of codes and in their administration has been inadequate. Certainly its share has been smaller than would be claimed and accorded to the trade union movement in Great Britain if similar changes were being introduced. The Codes, including the labour provisions, are drafted separately for each industry by representative associations of industrialists. The drafts are considered at public hearings, when interested parties can state their objections. This gives the trade unions their first official opportunity of proposing changes, and they are assisted by a Labour Advisory Board, which is part of the structure of the National Recovery Administration, appointed by the Secretary of Labour and consisting of eight members mainly trade union officials.¹ Organised labour complains that the industrialists have an unfair advantage because the drafts on which hearings are based are submitted by the trade associations, because the trade associations are in an unduly influential position in discussing the adjustments to be made to meet objections raised in the public hearings, and because the Administrators before whom hearings are held and who mainly determine what attention shall be given to criticisms of draft codes are largely drawn from the ranks of the industrialists.

The Administration, particularly General Johnson, has favoured industrial self-government rather than Government regulation of business,² this is shown both in the drafting of the

¹ An Industrial Advisory Board and a Consumers' Advisory Board are responsible that the interests of industrialists and consumers respectively are adequately represented.

² General Johnson was superseded in September 1934 by a Policy Board consisting of Cabinet members and other departmental chiefs.

codes by trade associations and in their application by Code Authorities representative of the industry with the Government assuming consultative and advisory functions rather than direction and control. The Code Authorities, with few exceptions, are composed almost entirely of industrialists, together with from one to three Administration representatives for purposes of co-ordination and advice and to protect the public interest. Only a few Authorities, *e.g.*, that for the Men's Clothing Industry, include members representing labour. In consequence of demands by the trade unions,¹ however, General Johnson decided, following the President's Conference on N.R.A. in February 1934, to appoint a labour adviser and also a consumers' adviser to the Administration member or members of Code Authorities.² These advisers, appointed on the nomination of the Labour and Consumers' Advisory Board respectively, are not members of the Code Authorities, and attend meetings only on invitation, but they have free access to the minutes and have the right to appear before the Code Authority to make statements on specific subjects. They are required to treat as strictly confidential all information obtained in their advisory capacity.

This arrangement meets only in part the demands of organised labour. The supply of information to the labour adviser is an advantage especially in affording early indications about changes in policy, but the fact that the information is confidential somewhat limits the action which the labour adviser can take in consulting the interests he represents. Organised labour desired the right to attend all meetings, though this would have stifled free discussion by the industrialists and led to unofficial meetings by the industrialists alone. On the other hand, labour was willing to accept an advisory position, and preferred not to have voting power unless its representation was equal to that of the industrialists. The formal representation of labour on the Code Authorities would be of value in protecting the workers' interests only when it had the backing of a strong labour organisation.

VI

Code Authorities composed mainly of industrialists may be fairly suitable for securing compliance with the trade practice provisions of the Codes, but complaints of violation of labour provisions and the settling of labour disputes must be handled

¹ See, for example, the *American Federationist*, March 1934, article on "The Representation of Labour on the Code Authority."

² National Recovery Administration Release 4152, of March 31, 1934.

either by an impartial authority or by a body upon which labour is represented equally with industrialists. The need for machinery other than the Code Authorities to deal with these questions was soon recognised, as in very few industries are the Code Authorities so constituted as to give adequate protection to the interests of employees.¹ In fact, two systems were established, one to deal with labour complaints and the other with labour disputes.

For labour complaints, as for violations of trade practices, the National Recovery Administration is an *adjustment* and not an *enforcement* agency, cases of wilful violation are referred to the enforcement authorities (*e.g.* the Attorney-General). During the early months of the Code system labour complaints which the workers or their representatives were unable to adjust with the management of an undertaking were usually submitted to the appropriate State Compliance Director, an official of the National Recovery Administration, who, with his Labour Compliance Director, endeavoured to secure compliance by investigation and conciliation.² If he failed the case went forward to the National Compliance Director, and failure to adjust at this stage was reported to the National Recovery Administrator for reference to the enforcement agencies. Complaints of violation of labour provisions have been very numerous, especially against small firms in industries where trade unionism is weak. The procedure for adjustment operated slowly, and, for reasons already indicated, few cases of violation have been referred to the enforcement agencies for punitive action. The Administration is, however, in a strong position for securing compliance by firms receiving Government contracts.

With a view to improving the procedure for dealing with labour complaints, the Administration in March 1934 decided that each industry should set up an Industrial Relations Committee to handle labour complaints, and also labour disputes.³ These Committees, of which few have yet been constituted, consist of

¹ The *Manual for the Adjustment of Complaints* (N.R.A. Bulletin, No. 7) states that complaints of labour violations should not be referred to the normal code body dealing with trade practice complaints unless the interests of the employee would be adequately protected. The Manual also distinguished labour complaints (*i.e.* alleged violations of code labour provisions) from labour disputes, which are defined as situations where a strike or lock-out exists or is threatened or as complaints which because they primarily involve Section 7 (a) of N.I.R.A. may lead to labour disputes.

² For purposes of investigation and recommendation the State Compliance Director may refer the complaint to a State Adjustment Board consisting of a representative of the industrialists, a representative of labour and an impartial chairman.

³ National Recovery Administration Release 4152, of March 31, 1934.

an equal number of representatives of employers and employees, with an impartial chairman¹ Already before this new system was envisaged several industries had set up representative Labour Complaints Committees, or Labour Disputes Committees, or both, in accordance with Code provisions These were chiefly industries in which labour was well organised, including cotton textiles, men's clothing, and bituminous coal The trade unions are favourable to the establishment of industrial relations boards in each industry, though the effectiveness of such boards is doubtful where labour organisation is weak They would give opportunity to industries to adjust their own differences before complaints or disputes are referred officially for settlement by the Administration's compliance machinery They might thus accelerate the process of adjustment, and they would also be in harmony with the favoured ideas of industrial self-government It seems, however, cumbersome to set up over eight hundred separate boards (*i.e.* one for each industry working under a code), and the grouping of allied branches of industry under a relatively small number of boards, which is now officially proposed, would have advantages

Alongside these Industrial Relations Boards dealing both with labour complaints and labour disputes there is special machinery for labour disputes The Federal Department of Labour has long had authority to deal with disputes through its staff of Commissioners of Conciliation, a number of the States have also instituted conciliation machinery In addition, a few industries had set up voluntarily by collective agreement schemes of conciliation and arbitration, while in one industry—railway transportation—a special system for settling disputes was established by legislation in 1926

With the introduction of the "New Deal" two types of machinery for dealing with labour disputes were set up, one on a national and regional basis, with power to deal with disputes in any industry, and the other on an industrial basis, separate authorities being appointed in certain industries to deal with disputes arising in these industries only. At first this new machinery was operated as part of the N R A system, but in 1934 it was brought into close association with the Department of Labour

The first new authority with power to deal with disputes in any industry was the National Labour Board, consisting of an

¹ As questions involving labour disputes were subsequently withdrawn from N R A, it is probable that Committees to deal with disputes will not be appointed in all industries, but that special machinery will be set up for certain industrial groups as occasion arises

equal number of representatives of employers and of employees, with Senator Robert F. Wagner as Chairman ¹. It is not necessary to describe this machinery in detail, as it was superseded after less than a year's operation by another system. The Board was empowered to deal with all disputes between employers and employees which, by involving risk of a stoppage, tended to impede the purposes of the National Industrial Recovery Act, it was designed especially to handle disputes arising under Section 7 (a) of the Act, and cases of non-compliance with code provisions resulting in a strike or lock-out being threatened or effected. In practice, a large majority of the disputes dealt with by the Board involved refusal of the workers' rights of organisation, trade union recognition, and collective bargaining ². As has already been indicated, the Board in settling various disputes supervised elections to determine the method of representation preferred by the workers. It also handled many cases of alleged discrimination against workers for trade union activities, and large numbers of workers were reinstated through its intervention. Chief after alleged violations of Section 7 (a) were wage disputes, including those arising from reduced weekly earnings consequent upon the shorter working week under the codes. The Board's methods were mediation, conciliation, and voluntary arbitration, it had no powers of compulsory arbitration. Under the National Labour Board, eighteen Regional Labour Boards were set up, together with Local Labour Boards, each consisting of equal numbers of representatives of employers and of employees, with an impartial chairman.

From the outset the Board was regarded as only provisional machinery, while in its operation it encountered the hostility of industrialists, many of its decisions being attacked as showing a marked bias in favour of trade unionism. Senator Wagner was, indeed, desirous of increasing the effectiveness of the trade unions and of securing a development of collective agreements with the trade unions representing the workers' interests, and he regarded the employers' manoeuvre of collective bargaining with company dominated unions as a travesty of the intention of Section 7 (a). He therefore introduced into the Senate a Labour Disputes Bill, the chief objects of which were to equalise the bargaining power of employers and employees and to create a permanent National

¹ This Board was created by the President in August 1933.

² See Statistical reports summarising the Board's work. The Board had only powers of adjustment, not of enforcement, cases of violation of the Act being referred to the Attorney-General.

Labour Board for the settlement of industrial disputes by voluntary mediation and arbitration¹ Its provisions about collective bargaining were stronger and more definite than those of Section 7 (a), while employers were to be precluded from adopting various "unfair labour practices," with the consequence *inter alia* that company unions of the existing type, influenced or controlled by the employers, would have been difficult to establish or maintain.

The industrialists were strongly opposed to the Bill, claiming that, in effect, though not in specific terms, it would enforce the closed shop throughout American industry, and would result in giving labour union officials virtual domination over American industrial life² They particularly resented the liability of employers to action because of alleged "unfair labour practices," while the trade unions were free from similar restrictions So strong was the opposition to the Bill that it had no chance, even much amended, of being passed by Congress.

In June 1934, however, Congress passed a resolution authorising the President to set up mediation boards for the settlement of labour disputes, but leaving unsettled the questions whether the "closed shop" principle should be applied if a majority of the workers demanded it, and the part to be played by minority interests in industrial negotiations³ Under this resolution the President set up a new National Labour Relations Board to supersede the National Labour Board⁴ Unlike the National Labour Board the new Board is "non-partisan," consisting of three impartial members, with no representatives of employers and employees Also instead of being part of the National Recovery Administration it works in association with the Department of Labour, a desirable change ensuring co-ordination and preventing overlapping The Board has authority to investigate questions arising under Section 7 (a) of the National Industrial Recovery Act or other differences obstructing the free flow of inter-state commerce, it may order elections to determine the workers' representatives for collective bargaining, prescribe regulations for collective bargaining and investigate complaints of discrimination against workers because of their trade union activities It may also, on the request of the parties to a dispute, act as a board of voluntary arbitration. It may retain or dissolve

¹ Its reference number is S 2926, 73rd Congress, 2nd Session, February 28, 1934 Some of its provisions resemble those of the Railroad Labour Act, 1926

² Statement by the Directors of the National Automobile Chamber of Commerce

³ Congress Resolution No 44, June 19, 1934

⁴ Executive Order 6763

the regional and local boards set up under the National Labour Board, and has power to recommend the establishment of Regional Labour Relations Boards and special Boards for particular industries. The right to strike, to which organised labour attaches great importance, is in no way impaired by this new system.

The Board appears to be adopting a narrow interpretation of its functions, for, although in August 1934 it made an attempt to handle the textile dispute, it finally, when the strike was declared, advised President Roosevelt to appoint a special mediation board for the purpose of effecting a settlement.¹ In communicating this advice the Chairman of the Board indicated that the Board regarded itself as an appeal court for the interpretation of Section 7 (a) of the National Industrial Recovery Act in specific cases, and that "as a semi-judicial body it is desirable that we be as far removed as possible from direct participation in controversies over some aspects of which we may at a later date be asked to sit in judgment."

In addition to the National Labour Board and its successor, the National Labour Relations Board, special boards have been set up, as already stated, to deal with disputes as well as with labour complaints in certain industries. Some of these are constituted under code provisions, but are generally responsible to the Administration, and not to the code authority. Under the Cotton Textile Code a Cotton Textile National Industrial Relations Board, consisting of one member representing the employers, one representing the employees, and an impartial chairman, was appointed by the National Recovery Administrator,² similarly constituted Boards were appointed in each State in which the cotton industry operates, while whenever a dispute arises in any mill an *ad hoc* joint mill committee is set up to make a first attempt to compose the difference. Though it handled many labour complaints and a number of disputes at individual factories, the Board was ineffective in the dispute leading to the textile strike of September 1934, partly because the union leaders lacked confidence in it, and its supersession is under consideration. Under the Bituminous Coal Code six divisional or regional Boards to deal with disputes are set up, each consisting of one member representing labour, one representing the companies, and one appointed by the President. These eighteen members of the divisional Boards together form the National Bituminous Coal

¹ The employers had refused the Board's invitation to meet the leaders of the unions in conference.

² This Board also dealt with labour complaints.

Labour Board, but in reaching its decisions only the six Presidential appointees have votes. A Petroleum Labour Policy Board has been set up under the Petroleum Industry Code,¹ while several other codes also provide for the establishment of machinery to handle disputes.

Any regularly constituted machinery may prove inadequate in a crisis, and recourse to special or exceptional methods may often be expedient. In the most serious disputes President Roosevelt has intervened, and the terms of settlement have sometimes included the creation of industrial relations machinery, *e.g.* the Automobile Labour Board established in settlement of the automobile dispute, March 1934, and the National Labour Relations Board for the steel industry, sometimes he has appointed an *ad hoc* board of mediation with a view to settling a dispute, this course being taken in June 1934 during the longshoremen's strike in Western and Southern ports, and in September 1934 during the textile strike when existing machinery had proved to be ineffective. In the disturbed state of industrial relations the need for flexibility of methods of adjustment and for adaptation to the circumstances of particular disputes has been given practical recognition, while the tendency has been to withdraw the new conciliation machinery from the National Recovery Administration and to bring it into closer association with the Department of Labour.

VII

To summarise, the National Industrial Recovery Act and other parts of the "New Deal" have been responsible for a great increase in industrial unrest in the United States, which has hampered the return of prosperity. With rising prices stimulated by Government action and official support for the idea that higher wages with shorter hours are necessary to sustain business recovery, it is not surprising that industrial relations have been disturbed. Trade union recognition, however, has been the chief immediate issue. Leaders of organised labour interpreted the Government's attitude and legislation to imply support of trade union recognition and collective bargaining, and they urged workers to join the unions as a patriotic duty. Employers in many industries long hostile to organised labour have adopted the "company union" interpretation of collective representation, have asserted that the trade unions are grossly exaggerating their membership figures

¹ Exceptionally this Code is under the Secretary of the Interior, and not under N R A.

and represent a minority, often only a small minority, of the workers, and they have resisted demands for recognition in the hope that recent increases in trade union membership would prove to be temporary and that the movement would soon revert to its former weakness and quiescence

These irreconcilable attitudes have placed the Government in a dilemma, it cannot satisfy organised labour without alienating the industrialists, and to do this would prejudice the success of the recovery programme. It has inevitably attempted compromises, but these have satisfied neither side, though, their position being provisionally safeguarded, they have been more acceptable to employers than to labour. At first the trade unions, grateful for the Government's support of freedom of association and collective bargaining, tried to avoid great industrial conflicts, but later they became disillusioned, attacked N R A for its failure to enforce the principle of collective bargaining, and resorted to strikes in an attempt to command recognition. The most disturbed period in the history of American industrial relations has resulted.

Trade union recognition and effective collective bargaining cannot be enforced by Government edict. They must be the outcome of stable organisation among the workers, temperate leadership on both sides and mutual confidence in fair dealing. It is yet uncertain to what extent the unions will be able to consolidate their new membership, and, with the present attitude of each side, the immediate outlook is not favourable for industrial peace.

J HENRY RICHARDSON

The University, Leeds,
October 15, 1934

ECONOMIC REVIVAL IN SOUTH AFRICA

ON May 16, 1932,¹ the South African Select Committee on the Gold Standard reported, *inter alia*

“ Your Committee is firmly convinced that the interests and welfare of the Union demand the maintenance of the gold standard ” (Para 121)

“ The abandonment of the gold standard would confer no absolute benefit on the Union It would not increase our national wealth by one penny As the Governor of the Reserve Bank said ‘ interference with the measure can never make your cloth longer or the surface of your table greater creating bad money will never create better business but the reverse ’ ” (Para 120)

“ It could at best only temporarily alleviate matters by bringing about a redistribution of wealth in the country, the full effects of which it would be difficult to foresee It would, however, introduce absolute drawbacks in the uncertainty as to the value of money ” (Para 120)

The Union abandoned the gold standard on December 28, 1932 It is the purpose of this article to examine the validity of the above statements in the light of subsequent economic events in this country and to see how far prophecy has been translated into fact, for the turn of events is interesting not only from an historical but also from a theoretical point of view ² For this purpose it is necessary to look briefly at certain aspects of the above report (i.e. the majority Report and not the Draft Report submitted by Mr Kentridge which advocated abandonment of gold and exchange parity with sterling)

The Report of the Select Committee

The following were the main arguments which influenced the Committee in declining to recommend the abandonment of the gold standard

1 To abandon the gold standard means “ upsetting the basis of all contract and all the manifold arrangements of the

¹ S C 9—32 (Great Britain had left the gold standard in September 1931)

² For a discussion of the period prior to abandonment of gold *vide* two articles in the ECONOMIC JOURNAL, March 1933, by Professors R Leshe and S H Frankel

community which depend on it. They would run the risk of having a currency the value of which no man would know from day to day" (Para 119)

2 The depreciation of the currency would be followed by a (corresponding and more or less immediate) rise in prices on the principle of the Quantity Theory of Money (Paras 7, 57, 58, 64, 92)

3 If the gold standard were abandoned the exchange rates on gold standard (and other) countries would remain exactly as they were, *i.e.* there would be no automatic depreciation (Para 90)

4 Abandonment of the gold standard would necessitate a policy of deliberate inflation to attain sterling parity (Paras 90, 91)

5 "The departure from the gold standard would act as a temporary relief (to the depression), but the permanent interest of the country would not be served by it. On the contrary, the cost at which the temporary relief would be bought would be so high that it must be ruled out as both uneconomical and dangerous" (Para 82)

6 "A satisfactory case for abandoning the gold standard cannot be based on the prospect of lengthening the lives of the mines" (as set out in evidence of representatives of the Gold Producers' Committee, Messrs J Martin, P M Anderson and W Gemmill) (Para 118)

The Committee could, perhaps, in the circumstances of the moment, hardly be blamed for playing for safety nor can there be any question that its members honestly believed in the correctness of their statements, though subsequent events have entirely disproved their main conclusions. Nevertheless, much of the evidence tendered, particularly by the mining, commercial and industrial interests and by certain professional economists,¹ was definitely in favour of abandonment, primarily on account of the continued fall in world prices measured in gold.

¹ The writer, in a written memorandum submitted, and in evidence, advocated abandonment, parity with sterling, and ultimate devaluation, and stated that abandonment would result in approximate parity with sterling, the return of the liquid capital exported, more favourable competitive conditions for the exporting industries, a greatly extended life for the gold mines, the balancing both of the general and the railway budgets, no inflation, decreased taxation and a stock exchange boom.

Immediate and Primary Effects of Abandonment

Abandonment of the gold standard, which was brought about directly by the political action of Mr. Thielman Roos, had three immediate and far-reaching effects

1 The Reserve Bank's T T exchange selling rate on London, which stood at its lowest point in November 1932, at £66 15s South African for £100 sterling, moved slowly but steadily till it stood at £70 10s on December 24. A wild scramble for gold coin commenced on December 23, and though the Reserve Bank was on December 28 relieved of the necessity of paying out gold against its notes, it quoted exactly the same exchange rates on London as it had on December 24.

The explanation of this is to be found in the evidence of the Governor, Mr. J. Postmus (Qq. 14-17), in which he stated emphatically on February 26, 1932, to the Select Committee, that should South Africa abandon the gold standard, the South African pound would not sink almost to parity with sterling and that, if the Government suspended convertibility of notes into gold but did not change the position of the Reserve Bank, "the Reserve Bank would go on paying its notes in gold and charging such rates of exchange as would keep the South African pound on a par with gold." This statement was based on an examination of the Union's trading position and balance of payments (Q. 20) and the "normal" demand for exchange. No account whatever was taken of *abnormal* demands for exchange, i.e. the movement of short-term funds and liquid balances, which would arise in a crisis and which had been the previous experience not only of the Union but of other countries.

But the statement was defective in another important respect: the Agreement of the Gold Producers to sell all their gold to the Reserve Bank (by means of which agreement only had the Bank been enabled to exercise control over rates, both of exchange and discount) was operative only so long as the Union was on the gold standard, which was defined as the ability to obtain gold on demand without any restrictions on its use. The importance and significance of this provision were apparently completely overlooked not only by the Board of the Reserve Bank (the Governor's written statement represented the unanimous opinion of the Directors) and the Select Committee but also by the Government. Consequently the non-convertibility of notes automatically abrogated the agreement, and the following day, December 29, the Mining Industry refused to sell any more gold to the Bank.

its supply of exchange was cut off at source, and the Bank itself rendered entirely impotent. As from that day it ceased to quote exchange rates and dropped entirely out of the exchange market till January 21, 1933.

The demand for sterling exchange continuing at the same unprecedented level and the supply being now entirely in the hands of the commercial banks, they pushed the selling rate the following day, December 30, to £91, and on January 3 to £96 (by which action the speculative demand largely ceased), and finally, on January 19, to parity. On January 21 the Reserve Bank resumed quotations at £99 $\frac{1}{2}$ Buying and £100 $\frac{1}{2}$ Selling, a margin of 1 per cent, which has been strongly and correctly criticised by the business community since as excessive, but which has enabled the Bank to replace its capital losses, rebuild its reserve and resume payment of dividends and has sent the price of its stock, which stood at £202 17s 6d on June 30, 1931, from the lowest point it touched, £102 10s on November 13, 1931, to £265 on April 14, 1934. As from July 4 last the margin was narrowed to £ $\frac{1}{2}$ and from July 30 to £ $\frac{3}{4}$. The Deputy Governor, presiding at the thirteenth Ordinary General Meeting of Stockholders at Pretoria on June 28, 1933, more or less admitted what critics had always said, namely, "that in exchange relations the psychological value of the South African pound is parity with sterling." A new Agreement with the Chamber of Mines was signed on May 10, 1933, the Bank handling as usual all the gold produced in the meantime. The Currency and Exchanges Act, 1933, made Reserve Bank notes legal tender, reduced the statutory reserves against both notes and deposits from 40 to 30 per cent and authorised the Bank to make investments to prevent undue fluctuations in the sterling exchange value of Union currency, any incidental losses or profits being borne by or accruing to the Government.

2 Parity with sterling immediately resulted in practically all the liquid resources which had been transferred to London, and amounting finally to approximately £17 m to £18 m, being repatriated at handsome profits and, in addition, a considerable amount of new capital was introduced, principally for the purchase of gold-mining shares. Since also abandonment of the gold standard meant the accretion to the revenue of all exporters as a body (including, it is worth noting, not only the gold-mining industry but also farmers and all exporters of primary products) of the premium on gold, and since in the case of the gold-mining industry this amounted in 1932 to approximately £18,200,000 for

the Reef only, the earning prospects of the mines were enormously enhanced, and there resulted, therefore—

3 A stock exchange boom in the shares of all gold-mining companies together with great incentives to new flotations I have analysed this "Boom in Kaffirs" in considerable detail elsewhere,¹ but the significance of the altered fortunes of the gold-mining industry is dealt with later. Some indication of the change is, however, provided in the movement of the writer's Gold Stock Index² of the shares of thirty-one producing gold-mining companies, from 1,082 on December 10, 1932 (base 1,000 in January 1931), to 2,217 for December 1933 and 2,607 for May 1934

The enormous change in the economic situation, a direct result of abandonment, can be appreciated only in the light of the position which gold-mining in particular occupies in the economy of the Union. The following figures³ give details of the Gold Mining Industry of the Witwatersrand for the year 1930

Whites in Service	22,245
Total in Service	226,769
Salaries and Wages to Whites	£8,386,332
Total Salaries and Wages	£15,297,662
Value of Stores consumed	£14,707,571
Tons crushed	31,701,103
Fine ounces of gold produced	10,538,797
Value of gold produced	£44,765,963
Working Costs (32 producing mines)	£30,935,241
Dividends paid	£8,630,010
Government's share of profits, etc, year ended 31/3/31	£2,169,082

The Commission also arrived at the conclusion that "about one-half of the population of the Union obtains its livelihood directly or indirectly from the gold-mining industry and that about one-half of the Government finances of the Union⁴ is derived directly or indirectly from the gold-mining industry." The total visible exports of South Africa in 1930 were valued at

¹ Vide *The South African Journal of Economics*, Vol I, No 3, September 1933, "The Boom in Kaffirs—an Analysis," pp 320-346, with six graphs, including a new Gold Stock Index (31 mines)

² Since taken over, but altered to 30 mines, by the Union Department of Census and Statistics. Vide *Monthly Bulletin of Statistics*, June 1934, pp 2-4 and Table XXI

³ Extracted from the *Report of the Low Grade Ore Commission*, 1932 (U G 16—'32), pp 21-22

⁴ Total Union Government expenditure in 1930-31 amounted to £30,813,216

£83,447,534, and of this gold, bullion plus coin, totalled £46,318,576, and the total National Income of the Union was estimated by the Economic and Wage Commission of 1925 at £186 m. The Gold Producers' Committee estimated that a currency depreciation of 25 per cent would on the 1931 output of 10,875,000 ounces be equal to an increase of £15,400,000 in the value of the output expressed in pounds of the new currency, additional costs might be £3,200,000, Government's share of taxation, on the then basis, and profits on leased mines would be £4,200,000, leaving £8 m. balance of additional working profit available partly for dividends and partly for development. The Gold Producers claimed that the length of life of the Reef would be greatly extended, large bodies of low-grade ore then below the margin of payability would be profitably exploited and that no appreciable rise in working costs or prices need be anticipated at least for some considerable time. The Select Committee questioned the whole basis of this argument and strongly maintained that working costs and prices would rapidly rise and that any benefit to the mines would be offset by increased expenditure.

The abandonment of the gold standard, therefore, though *initially* (i.e. *immediately* on abandonment) it did not involve any alteration in the total of the National Dividend but simply a transfer from importers and the purchasers of imported goods to exporters, enormously enhanced the income and profits to be derived from gold-mining, which, because of its major importance in the Union, has spurred incentives to production, kindled enterprise and willingness to assume risks and made available enormous sums for capital development both from internal and external sources. The immediate effects of abandonment already noted have been followed therefore by

Secondary and More Permanent Effects

These can be grouped most conveniently under the headings of changes in economic activity brought about by—(A) changes in incentives to private enterprise, (B) changes in Government policy and economic activity, which in South Africa, as in other countries, covers (not infrequently most unsuccessfully) a wide field.

A. These proceed primarily from the changed position of the gold mining industry, especially on the Witwatersrand. A "new mining era" has been inaugurated and its evidences are greatest on the Reef. The increased price of gold has led directly to—

- i great development of existing areas,
- ii exploitation of new areas.

In the case of the existing Witwatersrand gold mines, £8,379,000 was distributed in dividends in 1932 and £12,420,000 in 1933 ¹ apart from appropriations for capital development. Whereas in 1932 the tonnage milled was 34,466,750 and the gold recovered 10,987,341 fine ounces, the corresponding figures in 1933 were 36,383,800 tons and 10,413,473 fine ounces. Contrary to the Select Committee's report, the grade of ore has been steadily reduced and working costs have increased only a negligible quantity (and even then partly by increased development charges) as compared with the increased price of gold.

New shafts are being sunk, greater depths worked, plant and equipment improved and extended, previously marginal mines expanded, mines long since closed down reopened, and new areas are being tested and exploited. Johannesburg and the Witwatersrand pulsate with life and activity.

It is, however, in new promotions and flotations, prospectuses for which appear every week, that revival is best seen and confidence in the Union's chief industry shown. The following is the detailed analysis of flotations for the period January 1932 to June 1934.

REGISTRATIONS OF NEW COMPANIES

Period	Gold-mining Companies		Other Mining Companies		General Commercial Companies		Total	
	No	Nominal Capital	No	Nominal Capital	No	Nominal Capital	No	Nominal Capital
1932		£		£		£		£
Jan-June	4	29,000	13	355,600	301	955,247	318	1,339,847
July-Dec	5	891,500	10	62,860	269	773,986	284	1,728,346
1933								
Jan-June	42	3,509,752	16	111,465	329	1,355,250	387	4,976,467
July-Dec	68	4,598,000	20	38,000	375	1,328,000	463	5,964,000
1934								
Jan-June	53	10,598,000	24	258,000	543	4,870,000	620	15,726,000

¹ For destination of gold mining dividends *vide* the writer's article on "The Boom in Kaffirs," *South African Journal of Economics*, September 1933, footnote 7, p. 326, which stated, "It is quite impossible to obtain figures which accurately indicate the Overseas and Local proportions. On an average, however, over a period of time, it is understood that approximately two-thirds of the total dividends distributed by the gold-mining industry find an ultimate resting-place Overseas." Since then the Office of Census and Statistics has made a detailed investigation, and for the second half of 1933 has found that 39.94 per cent of the dividends declared and debenture interest paid by gold mines was paid in the Union and 60.06 outside (*vide Monthly Bulletin*, May 1934, pp. 2 and 3), which confirms the above.

Since the abandonment of the gold standard, therefore, 163 gold-mining companies have been floated¹ mainly to develop further areas in the Witwatersrand, though outside areas such as Klerksdorp in the Southern Transvaal, Barberton in the Eastern Transvaal and the Murchison Range in the Northern Transvaal indicate the spread of operations. Both the West Rand and the Far East Rand are the scenes of intensive activity and boring operations are in progress in areas which eighteen months ago were bare and silent veld. The Reef now extends from Potchefstroom on the West to Greylingstad on the East, and individual as opposed to company enterprise is likewise shown in the great increase in individual "claims" taken out.

The speculative character of all mining is not in question. Prospecting is essential if mineral wealth is ever to be exploited. Yet it is obvious that all the new companies cannot succeed. Such capital losses are a necessary part of most economic activity which proceeds by trial and error. Yet a distinction must be drawn between those companies which, from the start, have reasonable chances of success and those which have few or none. Many of these companies are for the purpose of exploiting known reef, have adequate capitals, will be well and honourably managed and technically well served and will undoubtedly reach the productive stage. Others will at least be well managed even if they do not succeed. But from their commencement the "intentions" and prospects of others may be doubted. The capitals of not a few are inadequate, of others excessive, the market values of their shares absurdly high, and many have no quotation whatever. Directorates could in certain cases be improved. Already the conduct of certain companies has been a matter of public comment and in some cases of shareholders' action, and a Shareholders' Protection Society has been formed. The Companies Act in some directions is out of date, more stringent Government control and scrutiny of prospectuses and articles are necessary, and "share pools" require careful supervision. But, forced by the pressure of enormous sums seeking investment and the high price of gold, the promotion movement continues unabated. This is not to decry it, but merely to point out that, while the general position is inherently sound, dangers present in all booms are existent in current conditions on the Rand.² The prosperity of the gold-

¹ The writer is at present engaged on a detailed study of "Company Flotation in South Africa, 1933-34," which it is hoped to publish shortly.

² (a) For a discussion of the "promotions" vide the writer's article "The Boom in Kaffirs," *South African Journal of Economics*, September 1933, pp. 343-4. It is significant that recent promotions are not so much producing companies as

mining industry is reflected in other lines. Property values have enormously increased on the Reef and a building boom of big dimensions is in progress which shows no signs of abatement, the number of building plans passed during the first eleven months of 1933 being nearly 50 per cent greater than that of the corresponding period of the previous year.

Unemployment throughout the country has fallen considerably, though no reliable figures are available, both mining and secondary industry recording notable improvement. No statistics are collected with regard to unemployment among Coloureds, Natives and Asiatics, though it is indubitable that at the depth of the depression it was very great indeed, the unemployment problem in the Union being "solved" in the main by substituting "white" for "black" wherever possible.

Despite a severe drought in 1933 (broken by adequate rains in December) and locusts in 1934, the position of agriculture has definitely improved, the value of agricultural products and foodstuffs exported during 1933 being £17.1 m. as compared with £13.5 m. in 1932, mainly accounted for by an increase in the value of wool exported (despite a reduction in quantity of over 100 m. lbs.) of £2,272,000 over that for 1932 and an increase in price from 4.2 pence per lb. to 7.7 pence per lb. Mohair, hides and skins, fruit, sugar, wines and fish all recorded substantial increases both in quantity and value. Secondary production likewise shows revival and has recorded consistent improvement throughout the period under review.

But the remarkable change which the altered currency policy has brought about is best seen in the banking figures and the financial position generally. Whereas the deposits (both time and demand) of the commercial banks in the Union increased from approximately £55 m. at the end of 1932 to £81 m. at the end of 1933 and £84 m. at the end of June 1934 (£83 m. in May), time deposits having fallen from £25 m. to £20 m. and demand deposits having increased from £29 m. to £64 m. as between the two extreme dates, their discounts and advances in the Union dropped

Investment companies and Fixed Trusts, many of ridiculously small capitalisation. From January to June 1934 there were no less than 47 such companies.

(b) Mr John Martin, President of the Chamber of Mines, spoke recently (June 16) of the share and promotion boom in the following terms: "It is my personal opinion that there is some danger that the increased prosperity of the gold mining industry may lead to and has led to fantastic expectations as to future results. The higher price of gold and the good position of the mining industry must not blind the public to the dangers of over-capitalisation and over-speculation."

from £39 m to £35 m and stood at £37 m at the end of May, a reduction in the ratio of advances and discounts to deposits from 71 per cent to 43 and thence to 45 per cent in May last, the lowest figures ever recorded in the history of South Africa. The ratio of cash reserves to total liabilities (both time and demand) of the commercial banks has increased from 12.71 at the end of 1932 to 36.11 at the end of 1933 and thence to 36.69 in May last, an equally unprecedented figure. Furthermore, the cash reserves of the commercial banks held as balances with the Reserve Bank increased from just over £4 m at the end of 1932 to almost £26 m a year later and stood at £29½ m at the end of June last. Similarly the note and deposit liabilities of the South African Reserve Bank advanced from £13,650,000 at the end of 1932 to £42,700,000 a year later, and stood at £49,504,010 at the end of June 1934, while its foreign balances (largely invested in London) increased from £152,000 at the end of 1932 to £18,900,000 at the end of 1933 and £22,882,706 at the end of March 1934, and its gold reserve from £7,350,000 to £17,150,000 (at the old parity) and thence to £19,595,902 (June 1934). Domestic bills discounted have fallen from £1,189,404 at the end of 1932 to £8,837 at the end of 1933 and £13,154 at the end of June, while foreign bills discounted have increased from £408.4 to £19,184,366 and thence to £20,995,545.

The above changes have naturally been followed by drastic reductions in both discount and deposit rates. The Reserve Bank rate of discount has been reduced from 5 per cent to 4 per cent (February 20, 1933) and to 3½ per cent (May 15, 1933), while that for first-class agricultural bills has fallen correspondingly from 5½ per cent to 4½ and thence to 4. The fixed deposit rates of the commercial banks in the Union for three, six, nine and twelve months respectively, which stood at 3¼, 3¾, 4 and 4¼ per cent respectively at the end of 1932, have since June 5, 1933, stood at nil, ½, ½ and 2 per cent. Building Societies and other financial institutions are choked with funds, and money rates are low not from lack of desire to utilise the capital available but from the restricted number of avenues for investment open in the Union. Building Society fixed deposit rates (six to twelve months) have been reduced in the past eighteen months from 5½ per cent to 3 per cent, and mortgage rates in Johannesburg from 8 per cent to 6½. A stock issue on March 26 last of the Electricity Supply Commission of £6¾ m, 1954-64, at 98, bearing interest at 3¾ per cent, was fully subscribed in two days and a Benoni Municipality loan on July 27 last of £150,000 4 per cent stock, 1965, issued at was over-subscribed in six and a half hours.

Several methods of utilising the country's excessive liquid funds have from time to time been suggested

But the normal play of economic forces will, the writer suggests, bring about their own adjustments without any unnecessary interference - the temporary employment of funds in London, the gradual expansion of internal enterprise, increased immigration, and, despite the tariff, increased importation, together with the reduction of long-term rates of interest, will gradually rectify what is after all a purely temporary situation. There are unmistakable signs that these measures are already bringing about the necessary adjustments ¹

Nor, contrary to the contention of the Select Committee, have prices, either Wholesale or Retail, exhibited the rapid upward tendencies prophesied. The Wholesale Index (base 1,000, January 1914) 955 in January 1933, stands at 1,139 for April 1934, and for the same dates the Retail Index figures (all items) are 1,123 and 1,167, an increase of less than 4 per cent. There was, of course, no reason, either theoretical or practical, to anticipate the results which the Select Committee considered certain. With their minds impressed by the effects on prices of the war and post-war inflation an entirely wrong parallel was drawn. How the internal Wholesale Index will behave will depend on the relative proportions of home and imported goods in the Index, while the ultimate effect on the cost of living will be much smaller owing to the relative fixity of many of its components ². This factor is of vital importance in considering future wage policy in South Africa, particularly on the mines.

B. This improvement in private activity is paralleled by a similar improvement in the financial position of the Union Government. The accumulated deficit carried forward from March 31, 1933, was £1,962,000. For 1933-34 current revenue on the then existing basis of taxation was £28,292,000 and estimated expenditure £34,016,000, giving a short-fall of £5,724,000 and a total deficit of £7,686,000. The figure of £34,016,000 was no less than £6½ m. in excess of the original estimate for the previous year, and was made possible, as the Minister of Finance admitted,

¹ In the past few weeks a remarkable change has taken place in some Reserve Bank figures. As between June 15 and July 13 Foreign Bills Discounted have fallen from £22,420,094 to £16,817,758 and Bankers' Deposits from £30,151,686 to £24,602,667.

² Professor C. G. W. Schumann, in a calculation made in February 1932, came to the conclusion that an external depreciation of 33½ per cent would result in an increase in the Wholesale Price Level of about 15 per cent and in the Cost of Living of about only 5 per cent, presuming stability of world prices. Vide *The World Depression, South Africa and the Gold Standard*, pp. 127-29.

only by the departure from the gold standard, and the increase was accounted for to the extent of £3,555,000 by direct assistance to farmers. The deficit of £7,686,000 was met to the extent of £6 m. by an Excess Profits Tax on gold, a tax which raised a storm of protest throughout the Rand and was modified this year.

The Budget for 1934-35 revealed an even more satisfactory position. The surplus for the year 1933-34 was £6,424,000, which extinguished the accumulated deficit and left a balance on hand of £4,510,000 plus an estimated surplus for 1934-35 of £2,808,000. The Excess Profits Duty of 1933 on the profits of gold mines, which was primarily intended to be a tax of 70 per cent of the premium on gold, was amended and is now much more equitable.¹ £3,860,000 was devoted to the reduction of debt and substantial remissions of direct taxation were made: the surtax upon fixed interest was dropped, stamp duty on cheques reduced from twopence to one penny, the estate duty abatement for Death Duty purposes was raised from £7,500 to £15,000, all forms of farm tax and quit-rent abolished, the primary abatement for normal income tax restored to £400 from £300 and extended to all classes of taxpayers, and in respect of normal tax payments a rebate of 20 per cent was given, a total remission of income taxation of £853,000 for the year; licence duties payable by "agents of foreign firms" were reduced, penny postage restored, and reductions in customs duties totalling £335,000 effected. Two Union Loans, one local and the other domiciled in London, have been redeemed and the interest rates converted from 5 per cent to $3\frac{3}{4}$ and $3\frac{1}{2}$ per cent respectively, a total annual saving in interest charges of £520,000. The issue of Treasury Bills was discontinued² as from February 13, 1934, and Loans and Advances to the Government by the Reserve Bank, which had been as high as £3,700,000 on October 7, 1932, also ceased at the end of February 1934.

The buoyant and satisfactory position of the Union's finances is paralleled by considerable improvement in the finances of the Railways and Harbours. The new Minister of Railways and Harbours, Mr O. Pirow, has promised that at long last the Administration will be run "on business principles" — an extra-

¹ For two excellent discussions on Mining Taxation by Sir R. Kotzé vide *The South African Journal of Economics*,

(i) "The Gold Mining Position," June, 1933, and

(ii) "The Excess Profits Taxation on Gold and Some of its Implications," September 1933.

² In some ways this is to be regretted, since they formed the nucleus of a short-term money market for the Union.

departmental commission, under the chairmanship of Sir Guy Granet, was set up in 1933 and its report is expected shortly, another commission, under the chairmanship of Sir William McIntock, will investigate the question of the Union's harbours, and a departmental commission is to consider the possibilities of further railway electrification in the Union, while the Railway Administration has already taken over the privately owned Union Airways. Similarly, the Budgets of the Provincial Administrations and most of the Reef towns reflect the altered economic conditions.

It is in the realm of agricultural policy that most doubts arise. The Union suffers from a chronic bucolic complex. Though recent events have done something to dissipate the idea, the belief is still firmly held that agriculture is the principal industry of the country, despite the considered opinion of such an expert as Professor H. Leppan that the Union is much more suited to pastoral than to agricultural pursuits, and the obvious fact that the prosperity of the Union is based on its gold-mining industry. While the difficulties of agriculture (drought, floods, locusts, etc.) are admitted, and the desire of successive governments to build up a sound agricultural industry, towards the time, now distant, when, no matter what the price of gold may be, South Africa's mines will be exhausted, is understandable, past policy in the way of indiscriminate subsidies, wasteful and impossible irrigation schemes, Land Bank loans which, not infrequently, finally develop into gifts, protection for the growth of products such as wheat, for which soil and climatic conditions are admittedly not suitable, together with continuous government interference by way of unbusinesslike control boards¹ and export quotas, has been utterly unsuccessful, and has, as is now officially though hesitatingly admitted, succeeded only in breeding an attitude of mind among sections of the farming community which looks continually to the Government for assistance. Such methods will never raise "sturdy, energetic and independent" agriculturists. Good farming will be achieved by good farmers and not by perpetual subsidies. These facts are gradually being recognised and agricultural policy, as *stated* anyway, has, since the abandonment of gold, been directed with more constructive objects. A definite policy for the prevention of soil erosion has been undertaken, schemes for the scientific and technical training of farmers and those desiring to be farmers inaugurated, water conservation schemes by the

¹ *Vide* "Two Conferences" by Dr J. G. van der Horst, *South African Journal of Economics*, March 1933.

building of a large number of small dams all over the country, and the commencement of certain larger irrigation works, undertaken, and a commission on Agricultural Co-operation appointed, which has, in its report,¹ made important recommendations, most of which the Government proposes to adopt

The whole of agricultural policy, particularly that relating to irrigation, was ably surveyed and criticised by Dr A L du Toit in his Presidential Address to the South African Association for the Advancement of Science on July 2 last. Whereas since Union (1910) to March 31, 1932, the total direct revenue from mining has been £86 15 m and the cost of administration of the Department of Mines £6 5 m, the total direct expenditure on the various Departments of Agriculture was £24 23 m and revenue £4 67 m, and loans created £25 67 m on which sterling interest is payable. Clearly, while mining may be a wasting asset, agriculture is quite definitely in many ways a wasteful one, and a thorough and searching investigation into the whole agricultural position is long overdue.

Conclusions

From the foregoing survey it is obvious that not one of the prophecies of the Select Committee has eventuated. So far from abandonment "not conferring any absolute benefit on the Union, nor increasing our national wealth by one penny," it has turned depression into revival. While currency depreciation to another country might have meant nothing, to South Africa, with its enormous dependence on gold, it has meant everything.²

Such a statement obviously needs qualification: it would be idle to pretend that the future contains no problems and that simply by a change of currency policy permanent economic prosperity has been attained. Complete revival will come only with an improvement in international trade. The future in some ways is more, not less, difficult—the problems of prosperity are no less onerous than those of adversity. The future of South Africa depends on gold and gold on its price, and though there would appear no reason to anticipate much, if any, reduction in the latter, the major technical problems of mining remain.³

¹ U G 16—'34

² Only, it must be emphasised, under the peculiar circumstances prevailing in South Africa in 1932—no general advocacy of depreciation is, of course, intended.

³ For an excellent discussion of the principal technical factors involved in mining policy *vide* "Witwatersrand Mining Practice: the Dominant Factors," by J M M Ewing, *South African Journal of Economics*, June 1934.

Moreover, a national stock-taking is necessary and the following seem to be suggestive lines —the establishment of a general economic council for the Union to advise on lines of major policy and work out a co-ordinated programme, searching investigations into the incidence and effects of the South African Tariff, as well as the effects of Industrial Legislation, and particularly into the agricultural position, greater control over new company flotations, particularly those interested in gold mining, a lesser rate of increase in government expenditure, an improvement in the economic position of the natives, and finally, a constructive mining policy

Nevertheless, the Union has been presented with a unique opportunity for reorganising its economic life on more permanent lines, and for building up scientifically an economic structure which shall be sound and enduring

C S RICHARDS

*University of the Witwatersrand,
Johannesburg,
August 3, 1934*

MONETARY ANALYSIS AND THE INVESTMENT MARKET

IN the propositions of economics an algebraical notation has the advantage of a precision which cannot always be attained by the literary contrivances of language. That is so, not merely because the same symbol must always represent unequivocally the same idea, but also because, to justify the simple relations of *plus* and *minus*, we are compelled to settle a number of questions of definition which could otherwise be left open.

In this article there will be no subtle or abstruse mathematical calculations. It is devoted to elucidating the mutual relations of a number of variables employed in monetary theory, but the relations are of the simplest, and the primary interest is in adapting the definitions of the variables to these simple relations.

Consumers' income I define to be the total income of the community expressed in monetary units. Consumers' outlay is the total expenditure *out of income*, including expenditure on investment.

Consumers' cash balances are those balances (of currency and bank credit) which are fed from income.

If all income were paid into these balances and they were fed from no other source, the consumers' outlay could be simply identified with the disbursements from them. But in practice there are some incomes which are not paid in cash, for example, wages paid in kind, and profits which are not drawn out of a business but are treated as income reinvested in it. In such cases we regard a single act as combining the receipt and expenditure of income.

And consumers' cash balances are also fed by some receipts other than income, such as the proceeds of sale of securities or property, gifts, bequests, etc. These I call extraneous receipts, and the consumers' outlay in any interval of time is arrived at by deducting from the total disbursements out of the consumers' cash balances the extraneous receipts in that interval.

Traders' cash balances are the balances held for business purposes. They comprise, in fact, all the currency and bank

credit outstanding, other than the consumers' cash balances. A trader is anyone who incurs costs in the course of his business.¹ His costs are met from his cash balance, and his receipts are credited to it. His income is the net profit which, in so far as it is not reinvested in the business, he draws out and places in the private cash balance belonging to him in his capacity as consumer.

The cash balance of any trading concern is a part of its capital, and payments from the balance are not payments out of income, they merely change so much capital from one form into another. Accordingly they are not part of the consumers' outlay.

When either a trader or a consumer becomes indebted to a bank, the indebtedness is to be treated as a negative cash balance. The excess (positive or negative) of the cash balances of any group of people over their indebtedness to the banks we call their net cash resources.

Let selling value of output	$= A,$
sales of products to final purchasers	$= A',$
consumers' income	$= B,$
consumers' outlay	$= B',$
traders' cash balances	$= C,$
consumers' cash balances	$= C',$
traders' indebtedness to banks	$= D,$
consumers' indebtedness to banks	$= D',$
traders' net cash resources	$= C - D = M,$
consumers' net cash resources	$= C' - D' = M'$

Incomes are derived from production or economic activity. Apart from the simple case of personal service rendered direct from producer to consumer without the intervention of any trader, incomes take the form either of costs (such as wages, salaries, interest or rent) or of profits. One trader's payments for intermediate products or materials are the receipts of another, and consequently they cannot ultimately be regarded as costs. But we cannot draw the simple conclusion that $A = B$, for there is one category of costs by which incomes are not generated, that is depreciation. The selling value of output has to provide a margin sufficient to cover, over and above all other costs, the continuing loss of value of capital through the approach of the time when it must be discarded on account of wear, obsolescence or any other cause, and will have to be replaced.

¹ This definition is not to be pressed too far. We can treat minor incidental occupational expenses, which do not justify the maintenance of a separate business cash balance, as "extraneous outlay" offsetting receipts which are not income.

If the necessary allowance for depreciation be K' , we have $B = A - K'$.

There are, it is true, some incomes which correspond to no current output, such as interest on the unproductive national debt, and various gratuitous pensions and benefits. We regard the Government as a "trader" supplying law, order, administration and military force to the community, and receiving payment in the form of taxation. We can regard these unproductive incomes as part of the cost of Government, or, perhaps preferably in the case of the gratuitous pensions and benefits, we can regard them not as incomes at all but as extraneous receipts. The taxes paid to the Government are included, in their entirety, in the consumers' outlay, but a part of that section of outlay is for providing these extraneous receipts and not for meeting the cost of Government properly so called.

Similarly we regard any charitable institution which incurs costs as a "trader." Contributions from its subscribers are included in consumers' outlay, and the salaries and wages received from it are included in consumers' income. The sums received by its beneficiaries are not income but extraneous receipts.

In any interval of time, t , let C, C', D, D', M, M' , be increased by c, c', d, d', m, m' (any of which may be negative quantities).

Then $(B - B')t$, the excess of consumers' income over consumers' outlay, is equal to $c' - d'$ or m' , the increase in consumers' net cash resources.

$(A - A')t$, the excess of output over sales, is the addition made to what may be called working capital, that is to say, goods destined for sale and not yet sold, whether in course of production, in transit or in stock, together with materials or intermediate products that are used up in the processes of production.

Let the working capital be E , and let the increment of working capital in the interval, t , be e , so that E becomes $E + e$, and

$$(A - A')t = e$$

The sales of goods, A' , include a portion, which we will denote by H , sold direct to consumers and included likewise in the consumers' outlay, B' . But they will also include capital goods sold not to consumers but to *traders*.

Some capital goods are purchased by consumers direct from traders, and are included in H , for example, houses bought by intending occupiers. But the final purchasers of capital goods

are for the most part traders. Capital goods are distinguished from the goods which constitute working capital in that they are acquired by traders, not for resale, but *for use*. They include instruments of production, and also expenditure on immaterial capital, such as advertising, promotion, etc.

These capital goods are not bought out of income, and are not part of the consumers' outlay. They are bought out of capital, and the traders' capital resources are increased for the purpose by sales of securities (either new issues or existing securities held by them) to the investment market.

We shall find it convenient to distinguish the capital resources of the investment market from those of the other traders. The characteristic of the former is that they are employed exclusively in buying and selling securities. The rest of the traders' capital we shall refer to under the heading of Industry, a term here given an extended meaning to cover all those forms of economic activity that use capital goods.¹

Since the investment market's capital is invested only in securities and not in capital goods, the resources of the traders who are the final purchasers of capital goods are to be found exclusively in Industry. Industry raises capital by selling securities to the investment market, and the investment market sells securities to investors, thus serving as a channel between the investors who save and the traders who incur capital outlay.

The investors are consumers, and their investment is a part of the consumers' outlay. In fact so much of the consumers' outlay as is not applied to the purchase of goods and services is applied to investment. The portion applied to goods and services is what we are denoting by H . The portion applied to investment we will call I , so that $B' = H + I$.

Investment includes not only the purchase of securities in the usual sense of stocks, shares, debentures, bonds and mortgages, but the acquisition of any rights or interests in trading concerns or income-yielding enterprises. Undistributed profits of any concern count as income reinvested in it by the proprietors. Life insurance premiums count as income invested in the assets held by the insurance companies.

Since the private investor not only buys securities but also sells them, investment will be a net amount, the excess of securities purchased over those sold. The speculative investor, who obtains a bank advance in order to take what he regards as a favourable

¹ It even covers the capital assets other than securities and cash held by the investment market itself, *e.g.* office accommodation and furniture.

opportunity to buy securities, we regard as anticipating income. Perhaps we should treat the pure speculator, who obtains an advance to buy securities for the express purpose of selling them at a profit, as a "trader," and include him in the investment market, but, alternatively, we can, if we choose, treat his purchases as investments out of income, and the proceeds of his sales and of the loans from his broker as extraneous receipts.

We will denote by I' the capital raised by industry. Capital raised is to include not only the new issues and existing securities sold to the investment market, but also reinvested profits, which are likewise included in investment, though they do not pass through the market. Capital raised is, like investment, a net amount, securities purchased or redeemed by traders being set off against those sold. When a trader gives credit to a customer he is regarded as buying a "security," the customer's debt.

The investment market receives I and disburses I' , and there results a change in its net cash resources equal to the difference between I and I' . But this does not cover all the transactions of the investment market, for securities may be bought and sold not only by traders and consumers, but by banks. When a bank lends to a trader, D and C are increased by equal amounts, and there is no change in the traders' net cash resources, $C - D$, or M . But when a bank buys securities, the investment market is credited with the proceeds, and C is increased, while, since there is no corresponding increase in traders' indebtedness, D , there is an equal increase in M .¹

This increase in M takes the form of an increase in the net cash resources of the investment market. In view of the prevalent practice of carrying securities with borrowed money, the net cash resources of the investment market are likely to be a negative quantity. We will denote by F the *net indebtedness* of the investment market to the banks, so that the market's net cash resources are $-F$. Since the net cash resources of all traders are M , those of industry, being all traders other than the investment market, are $M + F$.

If S be the securities held by banks, and if F and S become $F + f$ and $S + s$ in time, t , then

$$(I' - I)t = f + s.$$

Let the capital goods purchased by industry for use be K . If from this we deduct depreciation, we get the effective net addition

¹ Alternatively, D is decreased, and there is no corresponding decrease in C .

to the capital equipment of industry, which we will call "capital sunk" Capital sunk = $K - K'$

Since all sales are either to consumers or to other traders,

$$H + K = \text{total sales} = A'$$

"Sales" will include extensions of plant made by a trader for his own business and not bought from another trader

The traders have to pay for their purchases They procure the requisite means partly by raising capital to the amount, I' , and partly by intercepting a portion, K' , of the proceeds of sale of goods in the form of a depreciation allowance The total amount at the disposal of industry for the purchase of capital goods we will denote by J $J = I' + K'$

If (in this context) we give the name gross profits to the excess of selling value of output over all costs other than depreciation, then gross profits are equal to net profits, *plus* depreciation If R be gross profits reinvested, and R' be net profits reinvested, we have

$$R = R' + K'$$

The net profits reinvested appear in both investment and capital raised If we deduct this common portion from both, we find $I - R' = \text{securities sold by the investment market to investors}$, and $I' - R' = \text{securities bought from industry}$ Also $I' - R' = J - R$, and $B - R' = A - R$

The depreciation allowance appropriate to any concern is a matter of opinion, it depends on estimates of the remaining life of each piece of plant The time within which plant will be worn out is uncertain enough, while the chances of premature obsolescence or accidental destruction are incalculable¹ Consequently the division of R into the parts R' and K' , or of J into the parts I' and K' , is not a matter of objective fact

The same applies to the division of K into depreciation and capital sunk Except for actual replacements of plant which is being scrapped, there is nothing to distinguish capital goods that are paid for out of depreciation from capital goods that are paid for out of investment

Depreciation is to be regarded not as paying for an identifiable section of capital goods, but rather as a debit or lien attaching to the output of capital goods as a whole Only the excess of the

¹ Depreciation includes insurance against fire, shipwreck, etc The chances of loss can, of course, be estimated *approximately* for the purposes of insurance premiums

capital goods remaining after this debit has been discharged is available to satisfy the demand represented by investment

The depreciation allowance of a concern may simply be re-invested in the concern itself, increasing its assets (or diminishing its liabilities) It is then indistinguishable from capital raised by the concern through an issue of securities Or it may be invested in securities acquired by the concern for the purpose In that case the money is being made available through the investment market for the capital requirements of other traders

If the depreciation allowance is miscalculated, the result is a compensating error in the net profits reinvested If the depreciation allowance exceeds the gross profits reinvested, the net profits reinvested are a negative quantity, and appear as such in I and also in I' The capital raised by the concern is a negative quantity in the sense that its capital assets have been reduced and its share capital ought to be written down

We may call output, *minus* depreciation, net output, and sales, *minus* depreciation, net sales Then net output is equal to consumers' income, and net sales are equal to goods sold to consumers, *plus* capital sunk ($A - K' = B$, $A' - K' = H + K - K'$) We might have employed net output and net sales instead of output and sales in our equations That would have meant treating the capital goods sold to traders to the amount required to make good depreciation not as a part of output at all, but as a part of the cost of production of net output Depreciation would then, like other costs, generate incomes through the production of these capital goods

Or we might have defined consumers' income to mean *income distributed*, excluding from it the net profits reinvested Income distributed $= B - R' = A - R$ The corresponding outlay, investment and capital raised would be $B' - R'$, $I - R'$ and $I' - R'$ or $J - R$

But the equations as we have framed them are nearer to the facts In dealing with consumers' income or with investment, we must take account of depreciation in spite of all its uncertainties, for it governs people's *beliefs* as to what they can legitimately regard as income or as an acquisition of capital, and it is essential to the definition of capital sunk But in dealing with output and sales, any such departure from a purely objective measure is unnecessary and therefore undesirable

So much of the sum, J , available to industry for the purchase of capital goods as is not spent is added to the other capital resources of industry These other capital resources, which are

composed of working capital and net cash resources, we will call circulating capital, and denote by L . If l be the increment of L in time, t , then

$$\begin{aligned}(J - K) t &= l, \\ L &= E + M + F, \\ l &= e + m + f\end{aligned}$$

Thus, whereas one part, H , of the consumers' outlay finds its destination immediately in an equal amount of sales of goods, the remainder, I , follows a more devious path. It travels first into the investment market, whence, modified by the change of net cash resources, $f + s$, it emerges as I' , the capital raised by industry. I' then joins forces with K' , the depreciation allowance, to make a total, J , and finally, after an increment (or decrement) of the circulating capital of industry, l , has been provided, a sum, K , is spent on capital goods

$$\begin{aligned}H + K &= A', \\ H + I &= B' \\ \text{Therefore,} \quad A' - B' &= K - I \\ \text{and, since} \quad K' &= J - I', \\ (A' - B') t &= K't - (J - K) t + (I' - I) t \\ &= K't - l + f + s\end{aligned}$$

We may regard the net cash resources of various groups, the circulating capital, and the working capital as pools, and consumers' income and outlay, output and sales, investment, capital raised and capital sunk as streams connecting the pools together.

The change of level in any pool in the interval of time, t , is the difference between the inflow and the outflow. When the disbursements of any group of people exceed their receipts, they may be said to release cash, when their receipts exceed their disbursements, they may be said to absorb cash. There may be a release or an absorption of cash at any of the pools.

For consumers an absorption of cash is the difference between consumers' income and consumers' outlay

$$\begin{aligned}\text{An absorption} \quad m' &= (B - B') t, \\ \text{a release,} \quad -m' &= (B' - B) t\end{aligned}$$

For the investment market, f is the release of cash, while the release of cash through the purchase of securities by the banks is s , and

$$f + s = (I' - I) t$$

The release of cash by the banks and the investment market is the excess of capital raised over investment

For industry receipts are composed of sales to consumers, H , and capital raised, I' , while disbursements = B . The release of cash is $(B - H - I')t$ or $(B - B' + I - I')t$. In fact the release of cash by industry is necessarily equal to the absorption of cash by the consumers, the investment market and the banks

$$\begin{aligned} &\text{Since} && A - B = K' = J - I' \\ \text{And} &&& B' - I = H = A' - K, \\ &(A - A') - (B - B') + (I' - I) - (J - K) = 0, \\ \text{or} &&& e - m' + f + s - l = 0 \end{aligned}$$

Since $B - B' + I - I' = A - A' + K - J$, we have the alternative form $(A - A' + K - J)t$ or $e - l$ for the release of cash by industry. That is to say, the release of cash is the excess of the increment of working capital, e , over the increment of circulating capital, l . It is also the resultant of the difference between output and sales and the difference between capital raised and capital sunk.

For traders in the aggregate a release of cash = $-m = e - l + f$. This is equal to the absorption of cash by consumers and banks or $m' - s$.

Finally, the release of cash by the banks is equal to the absorption of cash by consumers and traders together, or $s = m + m'$.

We can express the equations in terms of net output and net sales by making $K' = 0$, so that $A = B$, $K = \text{capital sunk}$, and $J = I'$.

Again, we can give the equations a different form if we denote all the securities held by traders, both in industry and in the investment market, by U , and the new issues by N . We will call the circulating capital of all traders V , so that $V = E + M = L - F$. If u and v be the increments of U and V in time t , then

$$\begin{aligned} (N - I)t &= u + s, \\ (N - K + K')t &= u + v, \\ (I - K + K')t &= v - s \end{aligned}$$

Capital raised is a more significant factor than new issues, and therefore this alternative form of the equations is less useful than that which employs J and I' .

Since $F = \text{the securities held by the investment market against bank advances}$, $U - F = \text{those held by traders (including the investment market) with their own capital}$

$$(N - I')t = u - f$$

The increment, u , must include any gain or loss of value of

the securities composing U , either when the gain or loss is realised in an actual sale, or alternatively whenever the market prices of securities change ¹ If we choose the latter alternative, the gain is added to reinvested profits, R' (or the loss is deducted from them), and each of the quantities A , A' , B , B' , I , I' , J and H is increased by the same amount. The profit on the securities is treated as remuneration for the "service" of dealing in them, and that service is included (along with such charges as brokers' commission) in H , the value of goods and services sold direct to consumers. When a trader realises a profit on securities sold to the investment market, his operations are an "intermediate product," leading up to the finished product, the services rendered by the investment market to consumers.

When new money is invested in the investment market itself, *eg* to increase the stock-jobbers' capital (whether through an issue of securities to investors or the reinvestment of profits), this is included in I . The immediate effect is to reduce F' , the net indebtedness of the investment market, but, if the sum so made available is invested in securities, F' remains unchanged and I' is increased. Thus investment in the investment market has precisely the same effect as investment in industry.

Investment in new banking capital has in the first instance the same effects as a sale of securities by the banks, the banks absorb cash to the amount of the investment. But if the banks put their new capital in securities, the absorption of cash is undone, and here also the result is equivalent to an investment in industry.

This applies equally to the case where the new banking capital takes the form of reinvested profits. Banks sometimes create hidden reserves by excluding from their declared profits the profit from appreciation of securities. If they took credit for the appreciation, their accounts would show it as reinvested profits, increasing the value of the securities in their balance sheets by the appropriate amount.

To allow for these cases, we must define S as the result of deducting the capital, surplus and undivided profits of the banks from their holding of securities and their physical capital (buildings, etc.).

When a trading concern incurs a loss on its trading operations,

¹ We only take account of the gain or loss on securities held by traders. We do not include in income either the gain or loss on securities held by investors (consumers) or on the fixed capital in the hands of traders, represented by those securities.

that counts as negative income to its proprietors. Even if income distributed is *nil*, the reinvested net profit, R' , is a negative quantity. When a non-profit-making concern on a mutual or charitable basis incurs a loss, that is negative income to its subscribers. The loss in either case may be met from balances or temporary borrowing, occasioning a release of cash, or it may be covered by capital raised, *e g* through a sale of securities or borrowing otherwise than from banks.

The Government and other public bodies with powers of taxation resemble mutual trading concerns. A deficit is negative income to the taxpayers. A Government differs from other traders in that it can take special powers to release cash without limit through inflationary legislation.

In our analysis we have not as yet taken any account of foreign trade or the foreign exchange market. Exporters and people who become creditors abroad receive payment from the foreign exchange market, importers and people who become debtors abroad make payment to it. The market acquires the credits abroad of the former, and assumes the liabilities abroad of the latter.

Those who receive payment from the foreign exchange market find their net cash resources increased, and are in a position to release cash, those who make payment to the market find their net cash resources reduced, and will have to absorb cash. There will on balance probably be a release or absorption of cash, and this will reflect the position of the foreign exchange market itself, which will be releasing or absorbing cash according as its disbursements exceed or fall short of its receipts. When the market acquires a net credit abroad, it releases cash, when it assumes a net debit abroad, it absorbs cash.

Exports and other operations ending in sales abroad generate incomes just like any other economic activities. But the goods, services or securities sold abroad are diverted from the consumers' outlay, so that a gap is created between the consumers' outlay and the supply of objects upon which it may be spent. The gap is filled by the goods, services and securities acquired from abroad. If, as is in general the case, the gap is not exactly filled, the excess or deficiency corresponds to the absorption or release of cash by the foreign exchange market.

The foreign exchange market is composed mainly of banks. It plays much the same part in our analysis as the purchase and sale of securities by banks. In fact securities and foreign exchange are simply two classes of bank assets not included in D and D' , the indebtedness of traders and consumers.

There is this difference, however, that whereas the purchase or sale of securities by the banks affects in the first instance only the investment market, the purchase or sale of foreign exchange may affect any class of traders, or indeed consumers, for consumers may have dealings abroad without the intervention of any traders in their own country

A release of cash by the foreign exchange market in a country implies a favourable balance of payments, while an absorption of cash implies an unfavourable balance. The significance of either movement is in practice to be found much more in the reaction on the credit system than in the direct effects upon consumers' income and outlay. An absorption of cash by the foreign exchange market will be quickly corrected either by exports of gold and a restriction of credit, or by a depreciation of the currency. And a release of cash by the foreign exchange market will be corrected by the contrary measures.

The purchase of *anything* by a bank releases cash, and the sale of anything absorbs cash. Securities and foreign exchange are the principal classes of things bought and sold by banks, but there are others. For example, a bank releases cash by buying gold from a mine and absorbs cash by selling gold to a jeweller. A mint must be regarded as the equivalent of a bank, when it issues coin to a trader, it releases cash. In practice, however, a mint usually coins for a bank, and in that case the release of cash has already been effected by the bank in buying the bullion. The passage of specie from banks to customers and from customers to banks does not affect net cash resources.

In interpreting our equations we must bear in mind that $m + m'$ is not precisely equal to s , and that account should be taken of the banks' purchases of things other than the securities and capital assets included in s . But we need not complicate the equations by introducing additional terms symbolising this possibility at each stage.

The receipts and disbursements of the entire community are equal to one another. Therefore, when any section of it absorbs or releases cash, the remainder must necessarily be releasing or absorbing cash to a precisely equal amount. When consumers absorb cash (unless the banks buy securities), traders necessarily release cash, and the mere fact of the absorption or release of cash does not in itself throw light on the tendencies at work. All depends on the character of the originating disturbance. If it starts with an absorption of cash, the release of cash in the rest of the community induces a tendency on their part to absorb cash to

make good the loss, and so the absorptive tendency spreads with cumulative force. And, on the contrary, when it starts with a release, the consequent absorption is itself an inducement to a further release.

Credit regulation consists essentially in devices for inducing a release or absorption of cash. A measure of credit relaxation is directed to making traders willing to hold diminished net cash resources. They borrow more from the banks, D is increased, and C is increased by an equal amount. If their net cash resources are to be diminished, there must be a release of cash, which will take the form of an increase in consumers' income.

Assume that initially $B' = B$, $I' = I$, $J = K = I + K'$, and that the release of cash increases the consumers' income from B to $B + b$. Depreciation, K' , may be assumed to remain unchanged, and the increase in output is therefore b .

Suppose that in the first instance there is no change in consumers' outlay or in investment. The stimulation of traders' borrowing will take effect partly in industry and partly in the investment market. If capital raised be increased by i' per unit of time (the banks being assumed to make no purchases or sales of securities), then the increase in the indebtedness of the investment market to the banks is equal to i' . Industry receives i' and disburses b , so that its indebtedness is increased by $b - i'$.

There will follow, almost immediately, an increase, b' , in consumers' outlay, composed of sales to consumers, h , and investment, i . Industry will receive h and the investment market will receive i , and they will find their indebtedness increasing by $b - h - i'$ and by $i' - i$ respectively instead of by $b - i'$ and i' . The total increase in indebtedness is, of course, $b - h - i$ or $b - b'$.

These changes in the consumers' income and outlay, etc., may be discontinuous, in the sense, not of being literally instantaneous, but of being completed in a relatively short time, within which changes in M and M' will be so small as to be negligible. The changes in D and C may be discontinuous, but in the first instance they cancel out and do not affect M . The decrease in M only occurs gradually, as the increased consumers' income, $B + b$, causes an outflow from the cash balance, C . And meanwhile the consumers' outlay will have increased to $B + b'$.

If we suppose the traders to have intended a release of cash at the rate of b per unit of time, they will have been disappointed, for the release amounts only to $b - b'$. In fact they will be in a

position to release a further amount, b' , without going beyond their intentions

Meanwhile consumers are absorbing cash at the rate of $b - b'$. The increase in the consumers' income from B to $B + b$ makes the consumers' cash balances, C' , and their net cash resources, M' , inadequate. The purpose of the absorption of cash is to strengthen them, and it will continue till the due proportion between cash and incomes has been restored.

As the traders accelerate their release of cash, the consumers' income will be further enlarged, and the consumers' absorption of cash will likewise be increased.

Thus b , b' , and $b - b'$, will go on growing till the consumers' net cash resources, $M' + m'$, are in due proportion to the consumers' income $B + b$, and the traders' net cash resources have been diminished to the desired extent. It should be mentioned that, inasmuch as the traders' transactions are expanded, they will not in the end want so considerable a diminution of net cash resources as they originally aimed at.

A restriction of credit will lead traders to absorb cash with a view to increasing their net cash resources. The consumers' income will be reduced to $B - b$, and consumers' outlay to $B - b'$. Consumers' net cash resources will be reduced by $b - b'$ per unit of time.

In these tendencies we have the causal sequence which is the true foundation of the quantity theory of money. Anyone whose net cash resources are redundant will release cash, anyone whose net cash resources are insufficient will absorb cash. If, in the community as a whole, net cash resources are redundant, there will be a predominant tendency to release cash, and the consumers' income and outlay will be enlarged, if net cash resources are insufficient, there will be a predominant tendency to absorb cash, and the consumers' income and outlay will be compressed.

Any change in consumers' income is, of course, associated with a corresponding change in the money value of output, for $B = A - K'$. And any change in the money value of output is compounded of the change in the price level and the quantitative change in output.

The quantity theory, as usually enunciated, is concerned not with the net cash resources, $M + M'$, but with the aggregate cash balances, $C + C'$. So far as the behaviour of individuals is concerned, the two are identical in those cases where it is not the practice to rely on bank advances to reinforce balances. That applies to the great majority of consumers' balances,

bank advances being obtained only occasionally for exceptional purposes. There are also a considerable number of traders who avoid depending on their bankers for accommodation.

On the other hand, for the trader who is a regular borrower the cash balance has only a secondary significance. He can rely on bank advances to meet those big payments for which cash in hand would otherwise be necessary, and may so calculate the advances that he will never have a large idle balance, or he may obtain overdraft facilities, so that his cash balance is always *nil*, the difference is one of form rather than of substance.

It is the people whose net cash resources are negative who respond to the restriction or relaxation of credit, while those whose net cash resources are positive respond to fluctuations in the supply of money.

In analysing cash balances I have contented myself with a simple division into consumers' balances and traders' balances, without following Mr. Keynes in his more elaborate classification. I should say that the whole of what he calls income deposits would be included in my consumers' balances, and the whole of his business deposits in my traders' balances. But his savings deposits are divided between consumers' balances and traders' balances. An increase or decrease of savings deposits under either heading would tend to cause an equal absorption or release of cash, with all the appropriate consequences.

Depreciation sometimes proves a stumbling-block in the way of acceptance of the theory of credit regulation. Equilibrium requires sales to be equal to output. Consumers' income is a source of demand equal to the net output for consumers' outlay cannot diverge far or long from consumers' income. But there remains a residue of output, equal to depreciation, the demand for which depends upon the spending of the depreciation allowance. In a community in which capital is growing the depreciation allowance will regularly exceed replacements, for the replacements are proportional to the capital installed years before ¹. And there is no certainty that the excess of the

¹ Assume the life of plant to be a constant length of time n years. Let capital now in existence be B , and let capital in existence n years ago (which has all been scrapped) have been A . Then the annual depreciation charge has risen from $\frac{1A}{n}$ to $\frac{1B}{n}$. If the annual excess of capital outlay over replacements has been constant, depreciation has averaged $\frac{1}{2n}(A+B)$. With these assumptions, the excess of depreciation over replacements is equal to $\frac{1}{2n}(B-A)$, and is equal to the excess of capital outlay over depreciation, that is, to capital sunk.

depreciation allowance over the cost of replacements will be spent. Even if it is invested, the outlay on capital sunk may not be correspondingly increased. And it may be applied not to investment at all, but to reducing bank advances. That means an increase of net cash resources, and an absorption of cash, capital raised exceeds capital sunk, or, if we add on depreciation on both sides, J exceeds K . Clearly this is not a question exclusively of unspent depreciation, it is rather the more general question of the relation between capital resources and cash resources. Capital resources, whether derived from reinvested gross profits or from the investment market, may be used to strengthen circulating capital. Some growth of circulating capital is normal. To allow it, J must exceed K . The excess will provide the normal growth of working capital, $A - A'$, and the normal growth of net cash resources.

It is one of the tasks of those who regulate credit to see that the absorption of cash on this account is not such as to disturb equilibrium. If the ordinary procedure of credit regulation does not induce a sufficient increase of D , the traders' indebtedness, it may be necessary for the banks to buy securities. In the case where a disturbance of equilibrium arises from delay in investing unspent depreciation funds, we can regard the banks as taking the place of the traders in buying securities from the investment market.

If relief is to be afforded, we must suppose that the investment market succeeds in passing on the additional funds to industry and that the additional capital raised is applied to additional capital sunk. It is the function of the investment market to equalise capital sunk and investment, by applying the appropriate encouragement or discouragement to the raising of capital.¹

An absorption or release of cash might originate with *consumers*. The possibility of an absorption of cash occurring through a sudden access of saving, or a "thrift campaign," has formed the subject of discussion between Mr. Keynes and Mr. Robertson.

If consumption be G (which includes depreciation of capital goods possessed by consumers), saving will be $B - G$, and will be composed of

- (1) Absorption of cash by consumers, $B - B'$,
- (2) Investment, I ,
- (3) Capital goods bought direct by consumers from traders,
 $H - G$

¹ Recognition is due to Major C. H. Douglas for insisting that depreciation is a part of cost that does not of itself generate incomes.

Since $B' = I + H$, these three together are equal to $B - G$. The additional saving may occur under any of these three heads, but in so far as it merely increases $H - G$ at the expense of G , it makes no change in sales of commodities as a whole.

An absorption of cash by consumers is the sign of a desire to correct a deficiency of their net cash resources. The desire may arise from obscure and unpredictable causes, a distrust of investments, an expectation of social disorders, or a mere change of habits. It is to be interpreted rather as a diversion of savings into the form of cash than as a propensity to increase savings on the whole.

Thus we can treat the increase of investment ¹ as the essential manifestation of that propensity. An increase of investment provides additional resources for the investment market. If initially $I' = I$ and $J = K = I + K'$, an increase of investment from I to $I + i$ would permit of capital raised and capital sunk each being increased by i . If they are increased by something less, say, i' and k respectively, then there is an absorption of cash equal to $i - i'$ by the investment market, and an increase of circulating capital of industry equal to $i' - k$.

There is bound to be some delay in the response of capital outlay to the increased investment. There will be an interval when i' and k are actually zero, and, though the investment market becomes favourable to new issues, it can only induce the appropriate increase in capital outlay gradually.

Meanwhile, so long as the consumers' outlay remains unchanged, sales are reduced by $i - k$, and working capital is increased by unsold goods to that amount. In fact we are assuming no release or absorption of cash by consumers, and the absorption of cash by the investment market to the amount $i - i'$ must be offset by an equal release of cash by industry. This release of cash by industry is caused by an excess of output over sales.

It must not be assumed that any excess whatever of output over sales is a sterile accumulation of unsold goods. The excess may be either designed or undesigned. Traders may be induced by a relaxation of credit deliberately to increase their working capital by means of bank advances, or they may devote a part of the capital raised to effecting such an increase without incurring indebtedness. When that happens, the increase in stocks of goods awaiting sale is no embarrassment, and no disturbance of the equilibrium of markets ensues.

¹ It is hardly necessary to say that the term "investment" is used here in a totally different sense from Mr. Keynes's

On the other hand, an *undesigned* increase of working capital, an unforeseen accumulation of unsold stocks, is a signal for a restriction of output and for a reduction of prices. Output and prices alike have to be adjusted to demand, and the adjustment can only be effected by the method of trial and error. The equilibrium price of any product is ascertained empirically by varying the price whenever sales exceed output or output exceeds sales. Output tends to be expanded whenever unsold stocks are inconveniently depleted, or to be contracted whenever they become redundant.

When there is an absorption of cash by the investment market, there results an undesigned excess of output over sales, and this then leads to a reduction of both output and prices.

Mr. Keynes regards an access of saving as abortive when it results in a fall of the price level, and consequent losses to traders. In reality it is equally abortive when it results in a reduction of output. And even when output and prices are both undiminished, saving that results in no other increment of wealth than an undesigned accumulation of unsold goods may likewise be called abortive.

These results are attributable not to saving as such but to the absorption of cash by the investment market. Precisely similar results would follow from an absorption of cash, however caused, whether in the investment market, in industry or among consumers. Saving only causes an absorption of cash by the investment market so long as the capital sunk does not expand to a corresponding extent.

The increase in investment will make the investment market favourable to new issues and to sellers of securities, but some time must elapse before these favourable conditions bear fruit in actual new enterprises. And meanwhile the access of saving will have been causing a diminution of activity and a decline of prices.

In the case where an absorption of cash originates in a restriction of credit, the first effect is felt in a reduction of output and therefore of consumers' income. If, as is probable, consumers' outlay falls by something less than consumers' income, there will be an excess of sales over output and an actual *reduction* in working capital. But there is none the less an undesigned *excess* of working capital, because the credit restriction itself has made traders revise their views of the amount of working capital they wish to hold.

It is when they proceed to meet this situation with a further

reduction of output that the vicious circle of deflation sets in. The reduction of output means a reduction of consumers' income and a further shrinkage of sales. It only accomplishes a reduction of working capital equal to the difference between the contraction of output and the contraction of sales. And meanwhile the reduction in the volume of transactions itself involves a reduction of the amount of working capital required.

The twelve quantities, $A, A', B, B', H, I, I', J, K, K', R, R'$, represent seven independent variables, since they are related by the five equations

$$\begin{aligned} A - B &= J - I' = R - R' = K' \\ A' - K &= B' - I = H \end{aligned}$$

Depreciation, K' , is determined by the actual circumstances of the capital equipment employed. The other six variables are determined by the behaviour of the several groups of people. Output and consumers' income are determined by the traders and others engaged in economic activity. Reinvested profits (gross and net) are determined by the traders. The remainder of the consumers' income is dealt with by the consumers, who determine the amount of H , their purchases of goods, and $I - R'$, their purchases of securities. Capital raised and capital sunk are in the hands of the traders.

R G HAWTREY

INDUSTRIAL FLUCTUATION AND THE NATURAL RATE OF INTEREST

"This must be the wood," she said thoughtfully to herself, "where things have no names. I wonder what'll become of *my* name when I go in? I shouldn't like to lose it at all, because they'd have to give me another, and it would be almost certain to be an ugly one. But then the fun would be, trying to find the creature that had got my old name!"—*Through the Looking Glass*

§ 1 THE following paragraphs are an attempt to bring together (1) the concept of Saving developed in my article in the ECONOMIC JOURNAL, Sept 1933, and (2) the attempts which have been made to analyse cyclical fluctuation in terms of a divergence between the "natural" and the "market" rates of interest

As regards (1) I am not insensible to the force of the objections which have been made on the score of the vagueness of the length of the necessary minimum period of lag ("day") assumed. It is possible that there is greater justification than I have been ready to suppose for Professor Pigou's method of treating the period of lag as identical with K (the pre-existing circulation-period of money against real income), or at all events for treating it as having a fairly considerable minimum possible value dependent on the complexity of modern processes of production and sale. In any case *some* conception of a lag still seems to me necessary to protect us against the peril of confounding causes with results, and *processes* of change with *states* of abnormality.

As regards (2) I have not the knowledge of continental literature required for a critical and historical discussion of the concepts in question. A few introductory remarks must suffice. (i) Evidently neither of the rates concerned is a single one, but rather a family of rates for loans and investments of different kinds. In order to keep the schematic treatment which follows reasonably simple, we shall be obliged to concentrate on some central or representative rate in each case, ignoring the important complications which arise from the relative movements of rates for loans of different lengths and with different quantities of gilt on their edges. (ii) In some connections it is important to distinguish between rates charged by banks and "market" rates charged by outside lenders. Again, however, for our broad

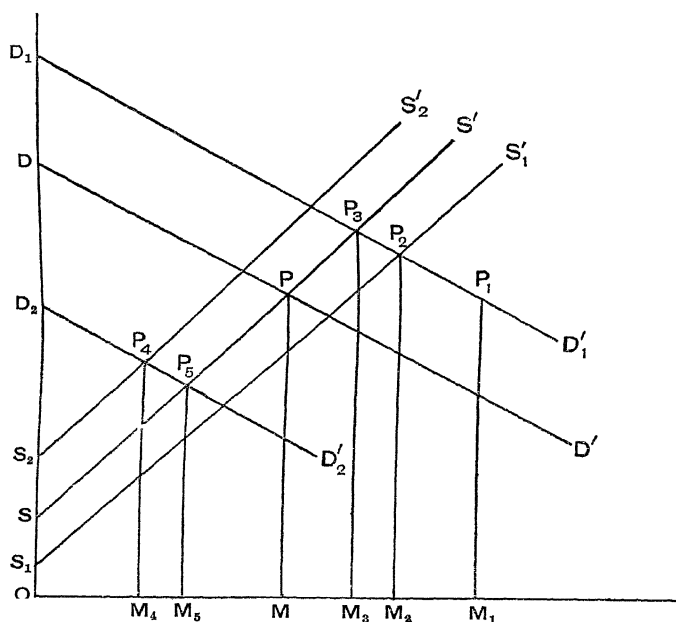
purposes it must suffice to deal in terms of a single "actual" rate, whose behaviour at any moment is to be pictured as dominated by the action of the banks (iii) There are difficulties and disagreements about the exact meaning of equilibrium, and consequently of the "natural" rate which will preserve it in a progressive community¹ They will be passed over here, with a view to concentrating on the much greater difficulties which attach to an attempt to give a meaning to the "natural" rate *when once equilibrium has been departed from* It may be said, however, that the idea of equilibrium here adopted implies a state of affairs in which (1) wages and profits are at a "normal" level, (2) capital is growing, but (3) since the society has already become a prey to fluctuation, employment of the factors of production is not full but at a level which is in some sense the mean between those attained in boom and in depression Under some conditions equilibrium will involve stability of the general level of commodity prices, under others, perhaps more probable, a progressive fall Again, under some conditions it will involve constancy of the supply of money, under others (*e.g.* a growing population) a creation of some additional money in each unit of time To avoid complicating the wording of the following sections, in which attention is directed to the differences between equilibrium and other states, I shall write as though equilibrium implied constancy in the supply of money, leaving the necessary verbal amendments, for the cases in which it does not, to be made by the reader for himself

§ 2 Starting with equilibrium in this sense, we have a curve DD' representing the declining marginal productivity of new lendings in industrial uses, in other words representing the rate per atom of time at which industry could employ new lendings at various rates of interest And we have a curve SS' representing the rate of new available savings per atom of time—available, that is, after deducting new savings absorbed in financing consumption by Governments or individuals It would be misleading to say that the rate of interest "depends on" the intersection of these two curves, since there would be a rate of interest in a society in which no new capital was being formed, indeed even in a society in which capital was not productive and all borrowing was for consumption nevertheless, in equilibrium the rate of interest PM is the rate at which the new lendings which can be absorbed by industry per atom of time and the new available savings per atom of time are equal At

¹ See my note in *Economica*, Nov. 1934.

this rate (*i.e.* at one of the family of rates typified by PM) the banks are continually renewing loans

Now, owing to the discovery of the Diesel engine, South America, or what not, an industrial expansion sets in, and DD' is raised to $D_1D'_1$. If the banks keep the rate of interest right down at $PM (= P_1M_1)$, the initial rate of *lendings* per atom of time will exceed the rate of available new *savings*, and the whole of the excess MM_1 per atom of time will consist of newly-created bank money. If, however, the banks allow the rate of interest



to rise somewhat, there is a complication in that the higher rate will stimulate the mobilisation of *past* savings existing in the form of bank deposits, and part of the excess of new lendings over available new savings will consist of these reservists. But there is a more important complication—the outpouring of MM_1 new or mobilised money per atom of time will progressively both increase total incomes and redistribute them in favour of entrepreneurs, *i.e.* in a manner on balance favourable to saving, so that SS' becomes displaced to the right ($S_1S'_1$). There is now a *quasi-natural* rate of interest P_2M_2 which would equate industrial requirements and available new savings under the new conditions, towards which the actual rate is likely to rise, and which if it is

reached will give *quasi-equilibrium*, with no further money-creation or mobilisation of past savings

§ 3 But this quasi-equilibrium is very unstable, for two reasons (1) Wages, etc are clambering up and eating into profits, thus causing $S_1S'_1$ to relapse towards SS' , raising the quasi-natural rate, with the actual rate in pursuit, towards P_3M_3 , and reducing borrowings towards OM_3 . This, of course, shows itself primarily in a recession of the demand for instrumental goods, and is the feature of the "crisis" emphasised—in various terminologies—by continental theorists. Work on the new Cunarder will be suspended¹

(2) But a more fundamental change is imminent. Owing to saturation with *existing* instruments, whose marginal productivity has fallen very low, the curve of marginal productivity of new lendings will be violently displaced downwards—say to $D_2D'_2$. This in turn involves the shrinkage of income and its redistribution in favour of non-savers, as well as some distress-borrowing by unemployed persons and loss-making entrepreneurs, so that the new quasi-natural rate will be P_4M_4 —not P_5M_5 . So long as the actual rate is kept above this there will be an excess in the rate of available savings per atom of time over the rate of industrial borrowings, showing itself in a progressive extinction of bank loans and a progressive immobilisation of savings in the form of bank deposits.

As I have argued elsewhere,² there is no necessary incompatibility between these two explanations of the "crisis". The first may be the actual spear-head of relapse, the second in practice coming up as a reinforcement, though it would have been capable of winning the battle by itself. The Cunarder suspended on the plea of high interest-rates remains suspended, with bank-rate at 2 per cent, because there are too many ships. The relative importance of the two causes (both of them describable as "over-investment") may vary on different occasions. It might be, for instance, that (1) furnishes an almost completely satisfactory explanation of the sharp short set-back of

¹ The "Austrian school" seems to me to tend to over-stress the importance of such intermissions of half-finished constructional enterprises as compared with the failure to undertake new ones. Also to exaggerate the embarrassment which the raising of *current* interest-rates will cause to those who have taken in hand extensions financed out of windfall profits, or out of long loans raised at the lower rates. Also to exaggerate the speed at which saving can be disentangled from fixed instruments, and therefore the danger that the boom-expansions of fixed capital will be lost—the railways built in the 'forties are still with us!

² *A Study of Industrial Fluctuation*, p. 241, *Banking Policy and the Price Level*, p. 90

1907, while going a very little way towards explaining the conditions of 1929

§ 4 If the rate of interest is reduced to P_4M_4 , at which the rate of available new savings equals the rate of industrial requirements, the position of quasi-equilibrium so attained may be considerably more stable than its boom-counterpart P_2M_2 . For (i) owing to the durability of fixed instruments, $D_2D'_2$ is not likely to be jerked upwards as $D_1D'_1$ was jerked downwards (ii) owing to the greater resistance of wages, etc against a fall than against a rise, $S_2S'_2$ does not so easily relapse towards SS' as did $S_1S'_1$. Thus we "bump along the bottom"

If now the banking system, to promote recovery, contrives a lowering of the actual rate, say to P_5M_5 , how are we (a) to describe, (b) to appraise its action? (a) It must, I think, be described as a lowering of the actual rate below the nearest thing to a natural rate which now exists, viz the quasi-natural rate P_4M_4 —involving, as it does, an initial rate of money creation M_4M_5 per atom of time¹. To call P_5M_5 a natural rate would be to assume that the expansion and redistribution of income which the lowering of the rate will admittedly promote will bring the savings curve right back to its "normal" position SS' —a thing which, with $D_2D'_2$ at its existing height, is beyond the bounds of possibility

But (b) it does not follow that the lowering of the rate is wrong policy. It produces *some* displacement of $S_2S'_2$ to the right, and creates conditions favourable for an eventual rise of $D_2D'_2$, while in the existing condition of the latter it can scarcely be considered dangerous. The objection² that when "normal" conditions are restored the natural and actual rates will be PM , and enterprises which have been initiated at the rate P_5M_5 will be in difficulties, is not convincing. For (i) it applies in some degree to all rates lower than PM , including the quasi-natural rate P_4M_4 , but to resuscitate on these grounds the ex-natural rate PM would be to promote not merely a continuance of stagnation but a renewal of money-contraction and hoarding. And (ii) it seems reasonable to hope that the same forces which will eventually raise $D_2D'_2$ to DD' will increase the profitability of enterprises which have been initiated at the rate P_5M_5 and enable them to pay the higher rate PM .

¹ A greater rate of money creation than this will be required if the method adopted is such as to promote the immobilisation in the form of bank deposits either of new savings or of past savings previously embodied in other kinds of capital asset

² For an able statement of this objection, see *Economist*, March 17, 1934, p. 563

At the same time, fears that the new position of normality may be passed unawares must not be dismissed as baseless. For it would be an abuse of the method of abstraction to suppose that it will in all respects resemble the old, especially as regards the level of commodity-prices. In particular if, in a society which has already become a prey to fluctuation, full employment of the factors of production, in their existing distribution between consumption and construction trades, is taken as the objective of policy, there seems a virtual certainty that normality will be overstepped, and the ball of cyclical fluctuation set rolling again.¹ This *may* be a lesser evil than the continuance of present unemployment and the retardation of progress, but it is not a good.

§ 5 It remains to inquire briefly what the relation is between the doctrine that fluctuation is to be explained in terms of a gap between the *natural* rate of interest and the *actual* rate, and the doctrine that it is to be explained in terms of a gap between the *real* rate of interest and the *money* rate. The answer is, of course, to be sought in the fact that the so-called "real" rate is not really a rate of interest at all,² but a hypothetical charge which takes into account changes in the real value of the money principal borrowed. The "capital windfall" transferred by a rise in the price-level to the borrowing entrepreneur from the lender is simply another aspect of the real or income windfall accruing to him at the expense of the other factors of production. It may appear at first sight, therefore, that to prevent trouble we ought to have raised the money rate just enough to obliterate the entrepreneur's "capital windfall," thus confiscating his real or income windfall and robbing him of the means and motive for misbehaviour. But to argue thus is to ignore that the rate of price-rise is itself the result of a given gap between the actual money rate of interest and the natural (real and money) rate. Any raising of the money rate will diminish the rate of price-rise and so narrow the gap between the money rate and the real rate. Let us, for instance, start in equilibrium and imagine a rise of DD' . It may be that if the rate is held at 5 per cent, a price-rise of 10 per cent will develop in a year,

¹ See the stimulating discussion by Mr. Durbin, *Purchasing Power and Trade Depression*, pp. 167-72.

² See Adarkar, "Fisher's Real Rate Doctrine," *ECONOMIC JOURNAL*, March 1934. The whole of this section is simply an attempt to bring Professor Adarkar's illuminating discussion into connection with the concept of the natural rate. It is assumed for the sake of simplicity of language that the situation is one in which equilibrium involves a stable price level.

so that the real rate turns out to be — $5\frac{1}{2}$ per cent, and it appears in retrospect that it would have taken a rise in the money rate to $15\frac{1}{2}$ per cent to obliterate the windfall. But it may be that if the money rate had been raised immediately to 7 per cent, there would have been no price-rise and no windfall at all, *i.e.* that the new natural rate was 7 per cent. And it may be that now, prices having risen by 10 per cent with a consequent expansion and redistribution of incomes, a rise in the money rate to 6 per cent will be sufficient to prevent any *further* rise in prices, *i.e.* that the new quasi-natural rate is 6 per cent. On the other hand, it *might* be that it would have required a raising of the rate to 20 per cent to prevent any rise in prices, and in this case to have raised it to $15\frac{1}{2}$ per cent, while it would have reduced the price-rise from 10 per cent to (say) 3 per cent, would still have permitted the emergence of windfall gains to the entrepreneur¹. Thus the “real rate” doctrine turns out to be less instructive as a guide to policy than it appears to be at first sight.

§ 6 The foregoing picture is, of course, over-simplified in a dozen ways². It will not commend itself to those who regard the cause of relapse as purely monetary, nor to those who find the notion of a lag, and therefore of a possible divergence between the rate of industrial borrowings and the rate of available new savings per atom of time, superfluous and indeed misleading. But I venture to hope that there are some who will find in it a contribution towards clarifying the relation between diverse doctrines of the causes of industrial relapse, and between conflicting views of the duty of the banking system in time of depression (I have designedly avoided discussion of the duty of the consuming public, the Trade Unions and the Government).

D. H. ROBERTSON

¹ Professor Adarkar (*op cit*, p. 341) appears implicitly to rule out this contingency, but it seems a real if improbable one.

² Among other things, as Mr J. E. Meade has pointed out to me, it ignores such secondary displacements of DD' as may be due to the change in aggregate incomes induced by a divergence between actual and quasi-natural rates.

SOME ASPECTS OF SMALL HOLDINGS IN THE AGRICULTURAL STRUCTURE

AN apology appears necessary for adding another study to the long list of writings on the economics of small holdings. During the present century the problem has been examined in detail by Levy, Ashby, and Thomas, while land settlement has provided a popular platform for social reformers and politicians. The main excuse for the present study rests in the fact that the financial data on which it is based provide a unique opportunity of comparing in various aspects the economics of small and large farms. Its purpose is briefly to illustrate certain essential differences in the character and the organisation of small and large farms, and to indicate various factors which make for success in small holdings. At the same time, the data available have made it possible to consider in some detail the relative capacity of the two groups as employers of labour and producers of wealth, and to consider jointly these factors in their national aspect.

The evidence on which the study is based was collected as part of a general survey of agricultural conditions in the eastern counties of England in 1932,¹ and as far as small holdings are concerned has been limited to holdings between 20 and 50 acres. In this respect it does not embrace all small holdings covered by the statutory upward limit of 50 acres or £100 rental. At the bottom end of the statutory scale are holdings of less than 20 acres, of which a considerable part is non-agricultural (*i.e.* they are occupied as private gardens, parks, recreation grounds, etc.), while at the upper limit are those of more than 50 acres in extent, but the rental of which is under £100. These latter, although data were available, were not used in the investigation, as the reduction in rentals during the past few years has been sufficiently great to bring into this category farms which could not normally be regarded as small holdings.

The economic importance of farms between 20 and 50 acres will be realised when it is recognised that this group provides

¹ Reprints Nos 19 and 21. "An Economic Survey of Agriculture in the Eastern Counties of England." Department of Agricultural Economics, Cambridge University. Price 2s 6d net. Postage 3d.

about 12 per cent of the total agricultural employment, and 11 per cent of the total output, compared with 21 per cent of employment and 23 per cent of output in the case of farms over 300 acres, which cover approximately six times the area. On the other hand, if all holdings and allotments under 50 acres are considered as a group, they provide 32 per cent of the total employment and 29 per cent of total output, from approximately one-tenth of the total farmed area.

At the outset it must be fully recognised that the small holding is not a new unit in English agricultural organisation, nor are the numbers created under recent legislation of great importance in the total of these holdings. The number provided by County Councils since 1908 is less than 12 per cent, and they control only 11.4 per cent of the land which is let in holdings of from 1 to 50 acres in extent. Particulars of the numbers of small holdings in England and Wales 1232 are as follows

	Number	Area
Above 1 and not exceeding 5 acres	70,674	221,422
Above 5 and not exceeding 20 acres	101,446	1,145,833
Above 20 and not exceeding 50 acres	77,222	2,612,806
	249,342	3,980,061

It is from the third of these groups, and mainly from the old-established holdings, that the following figures have been derived. In all, data from 201 holdings in the 20–50 acres group were obtained, and from 106 holdings in the 300–500 acres group. Before proceeding to the problem, however, attention must be directed to the fact—and this is an important qualification—that the production data and financial matters discussed in the following pages refer to the year 1932, and that any generalisation derived therefrom must be interpreted in the light of agricultural prices and conditions during that year.

It is generally recognised that the small farmer shows a greater resistance to a period of depression than the large farmer. In many respects this quality is understandable. The small farmer pays no large weekly labour bill, his standard of living does not run to large cars, hunters, or stands at expensive shoots, he derives a greater part of his total income as the produce of his farm, and his personal effort plays a more important part in the work of his holding. During a period of low prices he can and does reduce his extraneous needs to a minimum. Nevertheless, the resistance he has shown to the recent prolonged period of low

prices is remarkable. It is clear, however, that this recent relative success has been partly due to the fact that the types of production on which he is compelled to concentrate (*e.g.* milk, eggs, pigs, etc.) have been hit less severely by the price decline than other commodities produced by the large farmer.

The actual incomes obtained on holdings of 20–50 acres and 300–500 acres are given below.

Acres	Farm Income	Drawings in Kind	Family Labour	Wheat Deficiency Payments	Family Income
20–50	£ + 5	£ 37	£ 30	£ 19	£ 91
300–500	—131	71	42	176	158

On the small holdings, therefore, the Family Income averaged £91 per holding, compared with £158 on the large farms. As indicated above, this income is derived from (a) Farm Income (*i.e.* the difference between gross expenditure and gross income), (b) Drawings in Kind (*e.g.* dwelling-house and farm produce), (c) Wheat Deficiency Payments, and (d) Family Labour, already included as a charge against the Farm Income. If we examine these various units in detail, the natural strength of the small holder becomes even more apparent. It is, for example, from the sum of Farm Income and Drawings in Kind that the farmer, after paying any interest on borrowed capital or mortgage, is recompensed for his own capital, labour and management. At the moment the deficiency payments under the Wheat Act provide an additional source of income, presumably of a temporary nature. If we ignore this subsidy, and examine what we can call Natural Income, the small holder in the eastern counties in 1932 received on the average a Natural Income of £42, while the large farmer on the same basis of calculation made a loss of £60. These, then, are the sums, arising as the natural revenue of the land, available for the provision of living expenses in both groups. If we proceed to consider interest on capital investment, we find that £23 is required to defray interest at 5 per cent. on the £460 farm capital of the small holder, against £157 in the other group, with a capital of £3140. Therefore, if we deduct interest on capital from Family Income, we find that the Family Income of the small farmer was £68, compared with £1 on the large farms. Moreover, if both deficiency payments and interest on capital are deducted, the Family Income on the small group is £49, while on

the large group it has completely disappeared, and is represented by a deficit of £175

While the above figures illustrate what we may term the superior staying power of the small farm, they give no indication of its greater productivity, or of the essential differences in the character of its organisation. These variations are to some extent revealed by the analysis of income in the two groups which is given below

TABLE I
Amount and Distribution of Gross Income

Size of farm	20-50 acres			300-500 acres		
	per holding	per acre	per cent	per holding	per acre	per cent
Dairy produce	£ 121	£ 3 27	31 8	£ 387	£ 1 01	19 1
Horned stock	39	1 06	10 3	312	0 81	15 4
Pigs	53	1 43	13 9	180	0 47	8 9
Poultry and eggs	71	1 92	18 7	179	0 47	8 9
Sheep and wool	2	0 05	0 5	97	0 25	4 8
Wheat ¹	24	0 65	6 3	220	0 57	10 7
Barley	17	0 46	4 5	177	0 46	8 7
Sugar beet	23	0 62	6 1	163	0 42	8 1
Other crops	23	0 62	6 1	260	0 67	12 8
Miscellaneous	7	0 19	1 8	53	0 14	2 6
Total	380	10 27	100 0	2028	5 27	100 0

¹ Excluding Wheat Deficiency Payments

Of these figures probably the most immediately obvious is the large difference in Gross Income per acre between the two groups of holdings, and while a considerable difference was to be expected, it is interesting to note that, on an acreage basis, that of the small farms (£10 27) was approximately twice that of the large farms (£5 27). At the same time, the figures provide evidence of the greater dependence of the small holding on livestock and livestock products. The small holding, for example, sold approximately three times as much dairy produce, three times as many pigs, and four times as much poultry and eggs, rather more wheat and the same value of barley per acre as the large farms. In fact, sheep and "other crops" were the only enterprises in which the actual sales per acre were greater on the large farms. Perhaps an even better idea of the different character of the organisations can be obtained from an examination of the percentage distribution of Gross Income. In the small holdings group approximately 32 per cent. of Gross Income was derived from dairy produce, compared with 19 per cent. on the large holdings, 20 per cent. was

obtained from pigs compared with 9 per cent, while 19 per cent was returned by poultry and eggs compared with 9 per cent. In all, 81 per cent of the income on the small group was obtained from livestock and livestock products compared with 57 per cent on the large farms.

In the two groups farm capital was allocated as follows.

TABLE II
Amount and Distribution of Farm Capital

Size of farm	20-50 acres			300-500 acres		
	per holding	per acre	per cent	per holding	per acre	per cent
	£	£		£	£	
Crops and Tenant Right	163	4 40	35 43	1362	3 54	43 28
Livestock	204	5 51	44 35	1238	3 21	39 34
Implements and Machinery	93	2 51	20 22	547	1 42	17 38
Total	460	12 42	100 00	3147	8 17	100 00

The total capital investment per holding in the 20-50 acres size group was £460, or £12 42 per acre, and in the 300-500 acres size group £3147 per holding, or £8 17 per acre. Capitalisation per acre was, therefore, 50 per cent heavier on the small farms, while a greater percentage was invested in livestock and a smaller percentage in crops and implements. So much for Capitalisation and Gross Income in the two groups. Turning to expenditure, the analysis of which is given below, it is apparent that, as in the

TABLE III
Amount and Distribution of Expenditure

Size of farm	20-50 acres			300-500 acres		
	per holding	per acre	per cent	per holding	per acre	per cent
	£	£		£	£	
Labour ¹	112	3 03	29 9	855	2 22	39 6
Foodstuffs	113	3 05	30 1	350	0 91	16 2
Livestock	35	0 94	9 3	232	0 60	10 7
Rent	53	1 43	14 1	287	0 75	13 3
Fertilisers	7	0 20	1 9	62	0 16	2 9
Seeds	9	0 24	2 4	63	0 16	2 9
Miscellaneous	46	1 24	12 3	310	0 81	14 4
Total	375	10 13	100 0	2159	5 61	100 0

¹ Excluding occupier

case of income, expenditure per acre on the small farms (£10 13) is approximately twice as great as on the large (£5 61). The main differences under this heading lie in the fact that while labour is the most important cost item on the large farms, and represents 40 per cent of the total expenditure, in the small group, feeding stuffs, representing 30 per cent of the total expenditure, are the largest item. This dependence of the small holding on purchased feeding stuffs has an important aspect in regard to national policy. A supply of cheap feeding stuffs is more essential to the small holder than a high price for wheat. In the above sample, for example, the small holdings sold on the average £24 worth of wheat in the year, and purchased £113 worth of feeding stuffs, a 20 per cent rise in the price of feeding stuffs, therefore—i.e. an increase from £5 to £6 per ton—would cancel out any benefit derived from a 100 per cent rise in the price of wheat. Any political measure, therefore, designed to raise cereal prices, if it raises the prices of feeding stuffs, may, in the case of the small holder, be more than offset by the increased cost of his purchased foods. A further point in this connection merits consideration. Objection is frequently raised to a national livestock policy, on the grounds that a nation dependent on purchased feeding stuffs is insecure in either ordinary or economic warfare, and the same argument has been advanced in connection with the greater dependence on purchased feeding stuffs of small holders. It can be demonstrated, however, that in a system of small holdings the cereal acreage and output are, in the aggregate, rather higher than in the case of a system of large farms, while the net agricultural production is very much greater. In order to emphasise this argument the Gross Income of a large farm of 385 acres has been compared below with an equal area divided into small holdings.

	Gross Income on a —		
	37 acres holding (A)	385-acres holding (B)	$A \times \frac{385}{37}$
Dairy produce	£ 121	£ 387	£ 1258
Horned stock	39	312	406
Pigs	53	180	551
Poultry and eggs	71	179	738
Sheep and wool	2	97	21
Wheat	24	220	250
Barley	17	177	177
Sugar beet	23	163	239
Other crops	23	260	239
Miscellaneous	7	53	73
Total	380	2028	3952

It will be seen that 385 acres in small holdings actually produced for sale more wheat than the big farms, an equal amount of barley, and more sugar beet and other crops, while the output of livestock and livestock products was much greater. In time of war the sugar-beet land could be utilised for the production of extra cereals and potatoes, and the national supply of high caloric foodstuffs would be actually higher than in a system of large farms, while the stored-up fertility of good pasture land would assure good cereal crops for several years without requiring much fertiliser. On the large farms £350 and £232 per annum were spent on feeding stuffs and on livestock respectively. The similar figures for the 385 acres small-holding unit were £1175 and £364. Deducting these sums from Gross Income in both cases, the net agricultural production on 385 acres devoted to small farms was £2413, compared with £1046 on 385 acres as a single farm.

Turning to Gross Output, this represents the Gross Income less purchases of livestock, plus or minus any increase or decrease in the valuation of the farm stock between the beginning and end of the financial year, and represents the value of the goods "manufactured" on the farm. On the small farms group the Gross Output per acre was twice as great as on the large group—£9 54 per acre, compared with £4 72. It must be borne in mind, however, that, as no deduction has been made for purchased feeding stuffs in calculating Gross Output, the above figures do not represent the net return from the land. During the year the small farms purchased an average of £113 worth of feeding stuffs, compared with £350 worth in the case of the large farms. Deducting feeding stuffs from Gross Output, therefore, it appears that on the small farms what we may term the Net Return from the Land was £240 per holding, or £6 49 per acre, compared with a return of £1466 per holding, or £3 81 per acre, on the large farms.

So far we have discussed the relative stability and the apparent differences in the organisation of large and small holdings. Any comparison, however, must at the present moment be carried to wider issues. In the present state of world politics, with the growth of economic nationalism, the falling off in world trade, and with 2½ millions unemployed in this country, and with the presence of a large labour surplus unlikely to be re-absorbed in industry, the possibility of creating employment on the land assumes a new aspect, and any comparison of small and large holdings would be incomplete unless it dealt with the relative density of employment under the two systems.

Considering the labour requirements, data for which are given

TABLE IV.
Employment per Holding and per Acre

Size of farm	20-50 acres		300-500 acres	
	per holding	per acre	per holding	per acre
Manual workers (<i>including</i> occupier) (no)	2 1	0 57	9 4	0 24
Expenditure on labour (<i>excluding</i> occupier) (£)	112	3 02	855	2 22

in Table IV, it appears that comparing the two groups, the small farms provide employment for rather more than twice the number of men per acre. On the other hand, the expenditure on paid labour is £3 02 per acre, or £112 gross, on the small group, compared with £2 22 per acre, or a total of £855, on the large farms. A further point, however, arises in respect of the expenditure on labour shown above. On the small farms at least £30, or 27 per cent of the sum shown for labour, was paid to the occupiers' families for work done on the farm, and forms part of the Family Income. On the big holdings, on the other hand, only 5 per cent, or £42, of the total expenditure on labour returned as income to the family exchequer. The increased employment provided on the land under small holdings has an important bearing on present-day conditions, but before advocating a general policy of land settlement it would be necessary to obtain some idea of the effect of the change from, say, agricultural labourer to small holder on the income of the individual.

Going a step further, therefore, and considering the density of employment in relation to the earnings, it appears that on the large farms the income per person employed (*i.e.* the sum of Farm Income, Drawings in Kind, Deficiency Payments, and expenditure on labour divided by the total number employed) was greater than on the small, although when the Deficiency Payments were deducted the difference was diminished. Considering hired labour alone, however, the average income per paid worker on the

TABLE V.
Earnings per Person Employed

Size of farm	20-50 acres	300-500 acres
	£	£
With Wheat Quota payments	83 9	97 4
Without Wheat Quota payments	70 6	79 8

big farms was £94 4 The hired agricultural labourer with an average annual income of £94 4 was, therefore, financially better off than the small holder who, after deducting interest on capital from his total receipts (£61 less £23), received only £38 as a net return for his own labour When we consider Family Income, however, the small holder's position is placed in a more favourable light, the total sum available for the living expenses of the family being £91 There is, however, a further point which must be considered when assessing the relative positions of the labourer and the small holder The hired worker is wholly dependent on the ability of his employer to pay wages, and it has been fairly evident during the past few years that the wage rates of agricultural workers have been maintained by the expedient of reducing as far as possible the number of workers employed Moreover, with the progress of mechanisation both in cereal and animal production there is reason to believe that unemployment amongst agricultural workers may become even more general The small holder, on the other hand, growing a large part of his food, and living in his own house, is far less liable to find himself without a livelihood, or to become a victim of economic circumstances

There is a further factor which must be taken into account in a comparison of small and large farms, viz the amount available for distribution between the three partners in the industry under the two systems The measure of this factor is termed the Social Output, and is the sum of Profits, Labour and Rent Briefly, it defines the limit of all possible incomes from the land, and on its extent the standard of living and prosperity of the agricultural community will largely depend

The extent and the composition of the Social Output are given in Table VI and are considerably larger per acre (£5 73 compared with £3 19) on the small than on the large farms If we deduct Deficiency Payments from Farm Income, and compare on their merits the two units under natural conditions, the difference is even more striking In this case the Social Output of the small farm is £193, or £5 22 per acre, compared with £1052, or £2 73 per acre, in the large group

So far we have dealt with the relatively strong position of small holdings in the eastern counties Within this area, however, there is a wide range of soil and market conditions which (in themselves) may considerably influence farmers' returns An attempt has therefore been made to isolate the influence of soil and market, and to investigate the factors which make for the

TABLE VI
Amount and Distribution of Social Output

Size of farm	20-50 acres		300-500 acres	
	per holding	per acre	per holding	per acre
	£	£	£	£
Farm Income (including Deficiency Payments)	24	0 65	45	0 12
Drawings in Kind ¹	23	0 63	41	0 10
Labour	112	3 02	855	2 22
Rent	53	1 43	287	0 75
Total Social Output	212	5 73	1228	3 19

¹ Excluding rental value of farm house, which is already included under gross rent

success of the small farms in the different areas With this object in view, the farms have been grouped into nine major agricultural districts, each more or less homogeneous in soil type and marketing facilities, viz

1. Central Norfolk loams
2. Norfolk and Suffolk breck
3. Central Suffolk loams
4. South-east Suffolk and north-east Essex sands and gravels
5. North Essex and south-west Suffolk boulder clays
6. South Essex London clays.
7. South Hertfordshire
8. South Cambridgeshire chalks
9. Huntingdon and west Cambridge clays

Composition of income in each of the nine districts is given in Table VII

TABLE VII

District No	1	2	3	4	5	6	7	8	9
	£	£	£	£	£	£	£	£	£
Farm Income	- 4	+ 24	- 45	+ 14	- 40	+ 88	+ 83	+ 52	- 26
Drawings in Kind	29	44	38	31	41	61	46	33	36
Deficiency Payments	20	10	28	11	34	11	8	20	13
Family Labour	19	21	33	14	47	47	41	42	16
Family Income	64	99	54	70	82	207	178	147	39
Av size of holding (acres)	36	35	39	35	38	33	38	37	37
No of holdings	53	11	35	14	19	15	17	18	19

Examining the above figures, wide variations in Family Incomes between districts are immediately apparent. Holdings in Districts 6, 7, and 8, for example, with Family Incomes of £207, £178, and £147, are highly prosperous. None of the other districts provides a Family Income of as much as £2 a week, while in the case of District 9 the average Family Income is only £39.

Our next step is to discover why these large variations in profitableness arise. Are they due, for example, to particularly fortunate conditions of soil and/or market, to the development of a particular type of organisation, to concentration on particular enterprises, or to a combination of any or all of these factors?

Dealing first with the question of soil, it is generally held that small holdings can succeed only on the best land, or at least on land which is light and easily worked. While this generalisation is probably reasonably accurate, it is evidently not infallible. Evidence in this respect is forthcoming from the group of small holdings in south Essex (District 6), which returns an average Family Income of £207, despite the fact that they are situated on some of the heaviest and most tenacious clay soil in England. On the other hand, in the equally heavy clay soils in District 9 (Huntingdon and west Cambridge) and District 5 (north Essex) the small holdings have had a disastrous year. The success or failure of small holdings on heavy soil, therefore, depends not so much on the nature of the soil as on the type of production followed. The successful holdings in south Essex have been built up, as a result of the demands of the London market, on enterprises which can be developed in a system of grassland husbandry, viz., dairy products, poultry, and eggs. The small holder in Huntingdon and north Essex, in the absence of a local market, and perhaps through lack of capital and knowledge, has attempted to farm his holding on traditional arable lines. It may therefore be said that although a light soil is both easier to work and provides greater scope for diversified cropping than a heavy soil, and is in this respect better fitted for land settlement, small holdings can nevertheless be profitably established on heavy land, provided that it is properly drained, is capable of producing good pasture, and that there is a good local market for livestock and livestock products, or, alternatively, that such a market is introduced by co-operative settlement.

There are two other widely held beliefs in regard to small holdings (a) that they must be situated in the vicinity of large

towns where the small holder has an opportunity of direct contact with the consumer, (b) that they must have access to a retail milk market. While market plays a more important part than soil in shaping the destiny of a small-holdings scheme—as witness the triumph of market over the heavy clays in south Essex—it is evident that much could be done to compensate for the absence of a local market by the provision of co-operative agencies for the purpose of effecting economies in the sale and purchase of commodities. It was apparent from the above investigation that ample scope for such agencies existed. According to 1932 figures, the small holder had to pay approximately 10 per cent more for his feeding stuffs, and 20 per cent more for his fertilisers than the large farmer, and although no measure was available, the same probably held for other requirements. In this connection it should be noted that as at the moment the small farmer tends to pay cash for his purchases, while the big farmer is using credit, the discrepancy between cost of requirements between both groups is probably normally in excess of the percentages indicated. Moreover, owing to the fact that the small farmer can only put small lots of produce on the market, and as a result of his inferior bargaining power, he received some 10 per cent less for his barley and 2 per cent less for his wheat than farmers in the 300–500 acres size group.

If, for example, the small holder had been able in 1932 to sell his wheat and barley and to purchase his feeding stuffs and manures on the same terms as the large farmer, his income would have been increased by £15 a year, and these are but a few of the directions in which a saving could be effected.

With regard to the other prevalent idea in respect of small holdings, *viz.* that a retail market for milk is essential to their success, there is reason to doubt whether this belief is always founded on substantial grounds. It is at least amply proved by the data collected in the present investigation that small holdings can be remunerative without access to a retail milk market. For example, fifty-two holdings, or one-quarter of all farms between 20 and 50 acres investigated, selected from various districts and doing little or no retailing, and on which the average price of all milk sold was 11 58d per gallon, were in the satisfactory position of providing an average Family Income of £146, while the occupier received £94 for his own labour. It appears, therefore, that an organisation could be evolved which would overcome any difficulties which arise from the lack of a local market.

It would therefore appear that the reason for the success or

failure of any particular small holding or group of holdings must be sought in the organisation of the holding concerned. Within every district profitable holdings are to be found. How do these successful holdings differ from the less successful? Have the occupiers in the first case some particularly remunerative line of production denied to their less fortunate neighbours, or is their success due to a happier combination of enterprises, to more intensive or to more efficient production? Could, for example, a planned small-holding colony which would have a reasonable chance of success be evolved for each locality or soil type?

If we proceed to examine the amount and distribution of capital, output, income, and expenditure on small holdings in each of the nine districts, certain important considerations immediately emerge.

TABLE VIII

District No	1	2	3	4	5	6	7	8	9
	£	£	£	£	£	£	£	£	£
Capital per acre	12 08	11 54	12 21	12 26	10 08	24 85	11 68	13 68	8 57
Gross Output per acre	7 22	9 26	7 44	9 94	6 16	22 54	13 11	13 49	5 51
Gross Output as per cent of farm capital	59 77	80 24	60 90	81 08	61 11	90 70	112 24	98 61	64 30
Farm Income	- 4	+ 24	- 45	+ 14	- 40	+ 88	+ 83	+ 52	- 26

Average capitalisation, for example, ranges from as low as £8 57 per acre (District 9) to as high as £24 85 per acre (District 6), while these two districts have the lowest (£5 51) and the highest (£22 54) Gross Output per acre. Rate of Capital Turnover varies from a maximum of 112 per cent in District 7 to a minimum of 60 per cent in District 1, and the holdings in the more profitable districts had the higher rate of turnover.

It should be noted, however, that there appears to be no direct connection between capitalisation and profits. District 3, for example, with a capital of just over £12 an acre, showed a Farm Income of minus £45 on the year, while in District 7, with rather less capital, the Farm Income was £83. In the first case, however, the rate of Capital Turnover was 61 per cent, and in the second 112 per cent. The secret of success lies rather in the efficient application of capital.

Turning to the amount and distribution of Gross Income, figures for which are given in Table IX, it is evident that certain

TABLE IX.

Amount and Distribution of Gross Income per Acre

District No	1	2	3	4	5	6	7	8	9
	£	£	£	£	£	£	£	£	£
Cattle sales	1 14	0 94	0 90	1 71	0 53	1 12	2 19	0 68	0 84
Dairy produce	1 81	4 49	1 03	3 57	0 76	7 09	9 71	5 76	2 76
Sheep and wool	—	—	0 05	0 23	—	—	0 32	—	—
Pigs	1 11	1 11	2 26	1 20	1 55	0 33	0 66	3 31	0 60
Poultry and eggs	1 22	1 00	1 37	2 43	1 34	10 52	1 39	0 97	1 08
Wheat	0 67	0 37	0 85	0 37	1 10	0 43	0 26	0 68	0 43
Barley	0 72	0 63	0 36	0 26	0 29	0 12	—	1 14	0 03
Sugar beet	1 03	0 97	1 03	0 37	0 58	—	—	0 62	0 16
Other crops	0 08	0 40	0 26	1 06	0 32	3 82	0 18	1 54	0 24
Miscellaneous	0 11	0 09	0 10	0 37	0 29	0 18	0 32	0 30	0 16
Total	7 89	10 00	8 21	11 57	6 76	23 61	15 03	15 00	6 30

wide differences occur both in the total Gross Income per acre and in the methods by which the income is obtained. At the same time, certain general tendencies emerge. The amount of the Gross Income, for example, tends to be correlated with profitability, for farms with a high Gross Income have the highest Farm Income. Accepting this fact, can it be said that the most profitable districts derived a higher percentage of their Gross Income from sales of livestock and livestock products? If in attempting to answer this question we contrast the three most profitable with the three least profitable districts, it appears that a higher percentage of the Gross Income is derived from livestock products in the more profitable groups. It is obvious, however, that the main reason for the success of the most profitable farms is due to the more intensive nature of their production. The fact

TABLE X.

District No	3	5	9	6	7	8
Farm Income (£)	— 45	— 40	— 26	+ 88	+ 83	+ 52
Gross Income (£)	8 19	6 76	6 30	23 31	15 03	15 00
Percentage of Gross Income from Livestock and livestock products (%)	68	62	83	81	94	72

that production is less intensive in the three unprofitable districts is probably due to lack of capital and to unsuitable organisation, largely resulting from an inferior local market for livestock and livestock products.

TABLE XI

Amount and Distribution of Gross Expenditure £ per Acre

District No	1	2	3	4	5	6	7	8	9
Labour	2 67	3 05	3 00	2 86	2 63	5 49	3 29	3 94	2 16
Fertilisers and manures	0 14	0 20	0 23	0 11	0 21	0 45	0 05	0 24	0 05
Foods	1 80	2 80	2 87	3 91	1 81	7 73	4 71	4 17	1 92
Seeds	0 28	0 20	0 21	0 26	0 11	0 45	0 19	0 38	0 11
Livestock	0 67	0 74	0 74	1 63	0 61	1 06	1 92	1 51	0 78
Rent	1 50	1 26	1 15	1 11	1 16	2 76	1 50	1 62	1 30
Miscellaneous	0 94	1 06	1 13	1 29	1 29	3 00	1 18	1 73	0 68
Total	8 00	9 31	9 33	11 17	7 82	20 94	12 84	13 59	7 00

The amount and distribution of Gross Expenditure per acre are given in Table XI. Here again wide variations occur. Gross Expenditure ranges from £7 an acre in District 9 to nearly £21 per acre in District 6, while equally wide variations arise in expenditure on labour, feeding stuffs, livestock, and miscellaneous requirements within the districts.

In order to determine the part played by technical efficiency in the successful holdings, the ten most profitable are compared with the ten least profitable farms in the central Norfolk loam district (District 1). The amount and composition of income in these farms are given in Table XII.

TABLE XII.

	Best farms	Worst farms
Farm Income	£ + 123	£ — 122
Drawings in Kind	29	28
Deficiency Payments	21	23
Family Labour	10	36
Family Income	+ 183	— 35

In the best farms the Family Income was £183, compared with (—) £35 in the worst, while the Farm Income in the former case was £123, compared with (—) £122 in the latter.

The two groups were identical in size, and contained the same arable acreage. The Farm Capital was £563, or £15 2 per acre, in the best farms, and £407, or £10 93 per acre, in the worst. Gross Output was £469, or £12 66 per acre, in the profitable group, compared with £175, or £4 71 per acre, in the unprofitable, while Gross Income was £510, or £14 23 per acre, and £201, or £5 41 per acre, respectively. The analyses of income and expenditure on the two groups are given below in Tables XIII and XIV.

TABLE XIII
Amount and Distribution of Gross Income

	Profitable			Unprofitable		
	per holding	per acre	per cent	per holding	per acre	per cent
	£	£		£	£	
Cattle sales	61 7	1 67	12 1	43 4	1 17	21 5
Dairy produce	140 7	3 80	27 6	45 4	1 22	22 6
Sheep and wool	—	—	—	3 8	0 10	1 9
Pigs	79 4	2 14	15 5	26 3	0 71	13 1
Poultry	26 8	0 72	5 3	6 1	0 16	3 0
Eggs	44 3	1 20	8 7	18 1	0 49	9 0
Wheat	20 7	0 56	4 1	23 0	0 62	11 4
Barley	31 1	0 84	6 1	18 3	0 49	9 1
Sugar beet	88 9	2 40	17 4	12 0	0 32	6 0
Other crops	14 9	0 40	2 9	—	—	—
Miscellaneous	1 9	0 50	0 3	5 0	0 13	2 4
	510 4	14 23	100 0	201 4	5 41	100 0

TABLE XIV
Amount and Distribution of Gross Expenditure

	Profitable			Unprofitable		
	per holding	per acre	per cent	per holding	per acre	per cent
	£	£		£	£	
Labour	126 1	3 40	32 5	122 0	3 27	37 8
Fertilisers and manures	13 7	0 37	3 5	5 5	0 15	1 7
Foods	85 8	2 32	22 2	69 2	1 86	21 4
Seeds	10 9	0 29	2 8	8 8	0 24	2 7
Livestock	41 3	1 11	10 7	25 9	0 69	8 0
Rent	59 2	1 60	15 3	55 9	1 50	17 3
Miscellaneous	50 4	1 36	13 0	35 6	0 96	11 1
	387 4	10 45	100 0	322 9	8 67	100 0

Here again the profitable farms produce more intensively, and the holdings are so organised that with approximately £150 more capital and an additional expenditure of £65 the Gross Income has been raised from £201 to £510. Moreover, expenditure on labour in the two groups of holdings was practically identical. Nevertheless the output per £100 manual labour was £268 in the profitable group, compared with £105 in the unprofitable, while the rate of capital turnover was 83 per cent in the profitable, compared with 43 per cent in the unprofitable farms. At the same time, the profitable holdings purchased more feeding stuffs and

more fertilisers, produced more milk per cow (658 gallons compared with 556), and more eggs per hen. It is therefore legitimate to assume that not only was production on the profitable holdings more intensive, but that it was more efficient, and that better use was made of the various factors in production.

It was previously pointed out that the data used in the above investigation referred to the year 1932. As the success of any scheme of land settlement will largely depend on the trend of world prices, it is necessary to obtain an idea of the price position during that year. The instability of agricultural prices as a feature of the present world depression, and the inability of farmers to keep their organisations suitably adjusted to rapidly changing levels of price and cost, have been repeatedly emphasised. In spite of the fact that in 1931 agricultural prices reached an exceedingly low level, further declines occurred in 1932. The fall in prices was particularly severe in the case of livestock, which had hitherto escaped the full force of the price decline. During the year a slight rise took place in the price of cereals, while fruits and vegetables showed substantial increases. Feeding stuffs rose some 10 per cent, and over the 12 months averaged some 5 per cent below their pre-war level, while fertilisers applied to 1932 crops were purchased at a cost averaging 5-10 per cent below pre-war prices. The price of dairy cows and store livestock declined considerably. A fall of 35 per cent occurred in the prices of store sheep and pigs, both of which sold below their pre-war levels, while store cattle fell 10 per cent on the year, the price of fat sheep fell 31 per cent, while those of milk, eggs, and fat cattle all showed decreases. It is evident, therefore, that 1932 prices did not particularly favour the types of organisation prevalent on the small farm. Considering price movements in the future, it is improbable, taking into account the possible developments in cultivation and practice, that the world price of wheat will rise more than 50 per cent above its present level, at which point it will still be well below its subsidised level. If this supposition is correct, wheat as a cash crop will not be remunerative in this country except in very exceptional cases, without some form of Government assistance. Taking a long view of the agricultural situation, British policy will be more economically directed towards the production of those agricultural commodities in which this country holds a comparative advantage, viz. milk, fruit, vegetables, bacon, and eggs. It is in expansion along these lines, in conjunction with efficient systems of grading and marketing, and in the elimination of waste in production, that our

agriculture will be most profitably developed. The success of such a policy would to some part depend on the availability of a cheap supply of imported cereals, and its pursuit would entail a certain measure of control of supplies.

If such a policy is adopted, the small holding may assume an even more important part in the structure of British agriculture. To ensure success, however, any scheme of land settlement must be carefully planned. The haphazard establishment of isolated units, remote from markets, on badly drained land, under-capitalised, and following the traditional methods, is unlikely to succeed.

What of establishment on the colony principle? It has already been pointed out that the small holder derives the greater part of his income from livestock and livestock products, and that their production must form the basis of his organisation. It is dangerous, however, to establish large groups of small producers without some organisation for the transport and sale of produce. The local market soon becomes glutted with the particular produce of the small farm, and the producers are left in an unfavourable bargaining position. Some form of co-operative organisation is, therefore, essential to their success. That there is ample opportunity for economies both in the purchase and sale of commodities has been clearly shown.

With regard to the types of production to be followed, these will vary according to locality. Near a large consuming centre, as in south Essex, the holding can be profitably organised around the whole milk market, while over the more isolated Norfolk loams it can be developed on the manufacture of butter and the use of the skim milk in pig feeding. Whatever the type of organisation decided upon, there should be a general plan running through the scheme—the whole colony working towards a common objective. Such a situation entails a central organisation capable of giving direction, and acting in an advisory capacity to the group, of furnishing types of organisation which are likely to succeed, and of providing budget estimates and cost data, and of generally supervising the efficiency of the whole unit, and, if necessary, of enforcing certain standards. Care must be taken in the selection of the small holder and his wife, a good level of intelligence, adaptability, perseverance, and determination are essential qualities, to which should be added a spirit of independence and a love of the countryside. To such a type the hard physical efforts often required of the small holder will be more than outweighed by the sense of freedom and well-being which is

born of close contact with the land "The difficulty of educating a large number of small holders," says Ashby, "is insuperable, and in practice can only be done by example. One holder adopts a new method which proves practical, and another copies his neighbour." The central authority might do much towards the improvement of conditions by running a holding for educational purposes, and by inspiring by competition the small holders to develop their land on lines often away from those set by tradition.

Summary

The above paper compares briefly certain essential differences in the organisation of small and large farms, and indicates certain lines along which small holdings in this country might profitably be developed. It has been shown that compared with the large farm the small farm (*a*) has a greater resistance to low prices, (*b*) produces twice the value of produce per acre, (*c*) provides employment for approximately twice as many men per acre, and (*d*) that the Social Output is increased by 80 per cent. Comparisons have been made between the incomes of small holdings in certain districts, and between profitable and unprofitable holdings in the same district, and an attempt has been made to analyse the reasons for these differences in income. The conclusion has been reached that success of small holdings is mainly a matter of evolving a suitable organisation for the "locality," and that it is not so dependent on soil type or retail market as is generally believed.

A W MENZIES KITCHIN

*School of Agriculture,
Cambridge
March 1934*

REVIEWS

Annals of the Royal Statistical Society, 1834-1934 (Issued under the Authority of the Council London The Royal Statistical Society 1934 Pp 308)

THE Royal Statistical Society of London celebrated the centenary of its foundation in April last, and the present volume, illustrated with portraits of some of the more eminent of the Founders and Fellows, was issued as a most fitting accompaniment to that celebration. For the account of the events which led up to the foundation of the Society we are indebted to Dr James Bonar, for the whole of the remainder of the volume to Mr H Macrosty, one of the Honorary Secretaries.

The Society was an offshoot of the formation, somewhat irregularly, in 1833 of a Section for the Promotion of Statistical Inquiries at the Cambridge meeting of the British Association, originating with Malthus, Babbage, Richard Jones and Quetelet. A meeting of the Committee of the Section was held in London in February 1834, when, on the motion of the Rev T R Malthus, seconded by the Rev R Jones, it was resolved unanimously that "Following up the spirit of the instructions received by the Committee at Cambridge, it is advisable to take immediate steps to establish a Statistical Society in London, the object of which shall be the collection and classification of all facts illustrative of the present condition and prospects of Society, and that it be an instruction to the President and Secretary of the Committee to take the necessary steps for convening a public Meeting for that purpose." A public meeting "of Noblemen and Gentlemen" was accordingly held on March 15, 1834, and a somewhat lengthy resolution, proposed by Babbage and seconded by Richard Jones, was passed unanimously, of which the opening section reads "That a Society be established in the name of the *Statistical Society of London*, the object of which shall be the collection and classification of all facts illustrative of the condition and prospects of Society, especially as it exists in the British Dominions." There were 313 "Original Members" and ninety-eight more were admitted in the course of 1834. It is obviously impossible to repeat here the list of eminent names amongst these early Fellows, but the widespread interest aroused is shown by

the way in which they were drawn from all classes and professions both Houses of Parliament, the Law, the Church and Medicine, Science and Philosophy, all contributed Fellows, as well as the small band of economists and statisticians. The Marquis of Lansdowne, a descendant of Petty, was the first President.

At the meeting of the British Association, Adam Sedgwick, the President, had expressed a fear that, while statistical inquiries might join the rest in harmony if they dealt with "matters of fact, with mere abstractions, and with numerical results," if the Section deserted this secure ground its meetings would be distracted by the worst human passions and "the Daemon of Discord would find his way into their Eden of Philosophy" (We, of a later date, may recall discussions at Sections other than Section F that have not been altogether harmonious—a little discussion about Evolution at Oxford in 1860, for example.) This fear apparently continued to dominate the situation. In both the above resolutions the object of the Society is stated to be solely "the collection and classification of facts", and this was further emphasised in the Prospectus approved by the first Council. "The Statistical Society will consider it to be the first and most essential rule of its conduct to exclude carefully all Opinions from its transactions and publications—to confine its attention rigorously to facts—and, as far as it may be found possible, to facts which can be stated numerically and arranged in tables." It seems odd nowadays that this should be the first mention of *numerical* method in any of the resolutions. Odder still is the attempt to exclude all expressions of "Opinions"! But the "exclusionists," as Mr Macrosty calls them, fairly won the day, and their victory was emphasised in the emblem adopted by the Society—a wheat-sheaf with the motto "*Alius exterendum*" in a surrounding band. In spite of repeated protestations of fidelity to the principle, its spirit was inevitably and not infrequently broken. But not till December 1857 did the Council resolve that "the motto *Alius exterendum* be omitted from the symbol on the cover of the *Journal*."

The young Society had its teething troubles. Projects were attempted or suggested which were rather beyond its abilities, and the fact-collecting machinery of the Society through five Standing Committees did not work well. A better method was tried of forming *ad hoc* Committees, on the proposal of five or more Fellows, and also of utilising the services of a paid investigator. Methods seem gradually to have settled down, and by

the end of the first decade of the Society's existence quite a useful amount of work had been accomplished. Amongst others, Committees on London Education, on Vital Statistics, on the State of the Poor in Westminster, on the Population Census of 1841, on Hospital Statistics all seem to have served their purpose well. The *Journal* was begun in 1838, following eleven parts of *Proceedings* published during 1834-7 and a solitary volume of *Transactions* in 1837. The predominance of the "Condition of England" question in those days, as Mr Macrosty points out, is shown by the fact that, of the papers published in the first decade of the Society's work, some three-fifths may be classed under *Moral and Social Statistics* and *Vital Statistics*. There were no financial papers, and only two bearing on trade or commerce. We may note two names that were for long to be associated with the Society. Dr William Farr (President 1871-73) made his debut with a paper on "Mortality of Lunatics" in 1841, his last communications to the *Journal* were made in 1877, a few years before his death in 1883. Dr W. A. Guy (President 1873-75) presented three papers in 1843, his last was printed in the *Journal* in the year of Farr's death, and he himself died two years later. His name is commemorated in the Annual Medal now awarded by the Society. It may interest some to know that two papers were contributed by Rowland Hill (1840-41 and 1841) on "New Postal Arrangements". The foundation of the London Society seems to have been followed by that of a host of local Societies in the provinces, but all, alas! soon died out. The Manchester Society, which alone still survives in active work, was founded nearly eight months *before*, and not after, the Statistical Society of London.

In the following twenty years, from 1844 to 1864, the financial situation was frequently a source of great anxiety to the Council, and the lack of funds assisted at least the tactful rejection of preposterous suggestions—such as that received from the Secretary of the National Philanthropic Association, "that an endeavour be made to discover the quantities of horse dung deposited daily in the streets of the Metropolis". But the Council had also almost entirely to abandon research by "enquiries". On the other hand, Committees on Registration, on the Census, on Hospital Statistics, on the London Poorer Classes, on Church Lane St Giles, and on the statistics of Charities, all seem to have done good work. The Government were now, moreover, more active in the collection of statistics, driven to it by administrative needs. This period saw the initiation of international

statistical congresses, of which the first was held at Brussels in 1853, and the fourth in London in 1860. Though Vital Statistics and Moral and Social Statistics still claim the largest numbers of papers in the *Journal*, their preponderance is not so overwhelming, and there is quite a fair number of papers on Commercial, Industrial and Financial statistics.

But in all this period there had been little gain in the Fellowship. The numbers were no more than 357 in 1863. The next twenty years saw, however, considerable progress, numbers reaching 530 at the end of 1873, and 860 on the eve of completing the first fifty years of the Society's existence. "Growing Up," Mr. Macrosty entitles the history of this epoch, at the end of which the Society may be regarded as having "reached maturity." It seems, indeed, to have been the period in which the main work of the Society developed into its modern form. There were no Committees appointed for the "collection of facts," and only three in all—a Committee on Trade Statistics appointed in 1869 at the request of the Board of Trade to make suggestions for improvement, and Committees to make similar suggestions for the Censuses of 1861 and 1881. The papers were more varied: those on Vital Statistics lost their predominance, papers on commercial, industrial and financial statistics contributed nearly a third of the total, and over a quarter can only be classed under the heading *Miscellaneous*. The "financial" papers include Jevons's classical contribution "On the Variation of Prices, and the Value of the Currency since 1782" (1865).

The Jubilee of the Society, postponed from 1884 owing to the death of the Duke of Albany, was celebrated in 1885. A number of foreign representatives were invited, and one practical outcome of the meeting was the formation of the International Statistical Institute. The success of the Jubilee celebrations added greatly to the prestige of the Society, and in the following autumn the initial steps were taken to draft a Charter and lay the proposal before the Privy Council. This was granted in due course, and signed on January 31, 1887. Difficulties had frequently arisen from Fellows submitting or proposing to submit papers, not of a statistical character, on economic subjects, and attempts made to induce the Council to make definite provision for economics—the last by Mr. Hyde Clarke in 1885–6. These troubles came to an end in 1890, when the Council Room was lent to Alfred Marshall for the holding of a meeting out of which grew the British Economic Association, now the Royal Economic Society. Taken as a whole, the five and twenty years following

the Jubilee, in spite of a falling off in the number of Fellows from a maximum in 1890, appear to have been years of good, solid progress and sound work. Charles Booth brought to the Society (1887, 1888) the first fruits of his great inquiry into the life and labour of the people of London. Sauerbeck published in 1886 the account of his index-number, and an annual article by him, continuing the figures, was published regularly thereafter. The agricultural depression seems to lead to an unwonted crop of papers on agricultural statistics. Throughout the period Edgeworth made numerous contributions on mathematical method, and from the middle nineties other names begin to come in with papers on modern methods, or in which modern methods are used. The development had been slow, for a Society of which Francis Galton had been a Fellow since 1860, but it came, and once begun the acceleration has been rapid. The last five and twenty years, from 1909 to 1934, Mr Macrosty terms, not inappropriately, the "Age of Mathematical Methods." The history of these years is too close to us to be treated impersonally: its value will be best judged by those who come after. Suffice it to say that the continued vitality of the Society seems to be well evidenced by the formation of the Study Group in 1928 and of the Industrial and Agricultural Research Section, which has already published the first issue of its Supplement to the Journal, in 1933.

The obituaries of earlier chapters chronicled, as Mr Macrosty says, the passing only of the Gods and Demigods of the Society. The last chapter, dealing in more detail with the long roll of losses during the years 1909-34, is—at least to those who, like myself, have been active Fellows of the Society for a good deal more than the whole of that period—only too truly entitled "Missing Friends." Necessarily not that all were friends: would that one had known some, for the list is headed by the name of Florence Nightingale, who was a Fellow from 1858 to her death in 1910! But the roll stirs all too many memories of older Fellows who were kind and encouraging in one's younger days, of colleagues on the Council and in the office of Honorary Secretary, of pleasant meetings of the old-established Dinner Club, founded in 1839. And last, but by no means least, the band of those who were closely associated with one's own line of work. Francis Galton, who passed away full of years and honour in 1911, was the virtual founder of the English school. Edgeworth is a much more recent, and more intimate loss: the memory of his high courtesy, his abstract and, as it always seemed to me,

rather lonely intellect, and his sheer kindness will long remain with both our Societies. Frances Wood died long before her time. Brownlee, Soper and Miss Newbold all are gone. Long may their successors flourish, in this and all other branches of statistical work, and the Society of which they are Fellows grow from strength to strength!

The compiling of the history must have entailed much heavy labour, but it was well worth doing and has been quite admirably done. We can only express a deep sense of gratitude to the authors for their self-sacrificing labour.

G. UDNY YULE

Enterprise, Purpose and Profit: Essays on Industry By D. H. MACGREGOR (Oxford: Clarendon Press, 1934. Pp. x + 200. 8s. 6d.)

THE seven essays of which this book is composed deal with various aspects of industrial organisation and development. But the book is not merely a collection of separate studies, for the essays are linked by an underlying unity of ideas, so that, for example, the discussion of the nature of the co-operative dividend in the last essay amplifies the general examination of the profit motive in the first.

Much of the book, especially the chapters dealing with Motive and Interest and with Rationalisation, has to do with economic politics. The writings even of distinguished economists in this field are frequently marred by a strong bias in favour of, or against, planning, a bias which is generally a reflection of the disbelief, or the belief, of those writers in the virtues of economic liberalism. The existence of a bias is perhaps inevitable, but the danger arises when economists present their conclusions in such a way as to suggest that these emerge naturally out of their economic analysis and are independent of social-philosophical arguments. Further, the looseness with which such terms as *laissez faire*, private enterprise, profits, freedom of enterprise and planning, are used by those engaged in current controversies has long been a reproach to writers on these subjects, and compares very unfavourably with the precision with which the theorist tries to define his concepts. Professor Macgregor's essays are on a different plane from that of most other books dealing with these topics, because he is concerned not with pleading a case but with seeking for truth within a particular sphere, and because he subjects each of the familiar concepts with which he deals to a critical examination, stripping it of its emotional content. Thus, he

shows that the practice, common to many writers on economic politics, of speaking of profits with a shudder or a sneer, instead of as a category of income to which the present system gives a particular prominence, is obstructive to thought, for as long as society wishes to preserve some form of private capitalism, the existence of profits is pre-supposed. Again, he suggests that when critics say that private enterprise has "broken down," they often confuse a condition that may have arisen through defects inherent in the system with a condition that may be due to influences that come from outside the system, such as war or official intervention. This distinction between the "breaking down" of a system and "being forced off" that system can be applied, he shows, to such questions as workers' control. Because attempts to institute labour control have failed through the non-co-operation of the parties in industry—a non-co-operation due to historically created class antagonism—we are not justified in saying that labour control has "broken down" on economic grounds. This is a valuable idea, and should clarify discussion, although, of course, when we are dealing with such large questions as these, it is not always easy to determine what may be properly regarded as "external" influences in a situation, or what impacts on a particular evolutionary process are really independent of that process. The questions of what industry is "for," and of whether it is possible or desirable to introduce into business the standards of conduct that exist in the professions are also discussed with great insight. The difference of standards in these two spheres is largely determined by a difference in the conditions in which business and professional men supply their respective services, and to claim a moral superiority for the professional man is to ignore this difference.

The essay on the Sanctions of Rationalisation is timely, coming at a moment when Governments are so active in their efforts to change the existing forms of industrial organisation. A public authority may decide to rationalise compulsorily an industry for reasons of policy, administration or technique. It is particularly difficult for a Government to justify its intervention on the last-named grounds. Professor Macgregor suggests that for evidence it can appeal to industrial comparisons, to international comparisons, and to the views of industrial leaders. No doubt considerable weight has been given, and should be given, to this type of evidence. But its value may easily be exaggerated. Consider, for example, the evidence of industrial leaders. In a complex industry it may well be that the industrial leaders,

drawn necessarily from the great firms, may favour compulsory rationalisation, while a number of small producers engaged in a different range of products and yet regarded as forming part of the industry, are opposed to it. Their opposition may be well founded, since it may possibly be due to the different technical conditions in which the primary and finishing branches of a trade operate. In such a case, in giving weight to the evidence of the leaders, the Government might well be merely lending support to a particular section of the industry against the interests of the rest. The root difficulty, of course, lies in the determination of what an industry actually consists of.

The third essay is a statistical study of the trade cycle during the half-century before the War. Professor Macgregor makes an effective reply to the sweeping criticisms that have recently been made of the statistical approach to the problem of industrial fluctuations, criticisms no doubt provoked by injudicious claims made on behalf of that method. He constructs an index of enterprise based on the annual formations of new limited companies, and relates this index to the indices of employment and wholesale prices. From this he reaches the conclusion that at times of change in the cycle the index of enterprise has priority over the others, a conclusion of importance both for theory and policy. The fourth essay is also statistical and serves to demonstrate that in the pre-War period "business risk was a declining burden and that the decline was considerable." This conclusion is at variance with the popular view that private enterprise has been suffering from a progressive deterioration, and it has a bearing on the general discussion in the first essay of the contrast between "breaking down" and "being forced off."

The last three essays, *Some Aspects of Rationalisation*, *Rationalisation and the Coal Trade*, and *Profit and Mutual Trading*, have already appeared in this JOURNAL.

The book as a whole deals with some of the most difficult problems of economic policy, problems which require for their solution (but seldom receive) as careful a definition of terms and as close reasoning as those in the sphere of pure theory, and Professor Macgregor has raised the discussion of these problems out of the confusion in which it usually takes place. We have entered upon an era in which policy will count for much in economic life. One of the important tasks of economists will be to "straighten out," as he says, ideas in the field of economic politics. In the fulfilment of this task Professor Macgregor's book will be of great assistance. It not only brings us new know-

ledge, but it is also distinguished by the wisdom with which the discussion of great and living issues is informed

Attention should be called to the misplacement of a preposition on p 20, l 13, as it may momentarily confuse the reader, and to an obvious misprint of "on" for "or" on p 14, l 28

G C ALLEN

University of Liverpool

The Theory of Wages By PAUL H DOUGLAS (New York The Macmillan Company 1934 Pp xviii + 639 20s)

THE first but unpublished edition of this work won the Hart, Schaffner and Marx international prize of 1926 for a treatise on the theory of wages The manuscript was, however, returned to the author because the study was incomplete in some parts and needed further development and testing before publication With such zeal did he set about this task that the plan of the original treatise was drastically altered, and a substantial part of the original matter discarded in favour of the new results achieved after no less than seven years of continuous revision Thus—to quote from the author's preface—"the book as a whole has come to be an attempt at an inductive study of both the productivity and supply curves of labour and capital" Yet it lives up to its title quite reasonably well, while as an inductive study it certainly towers above most of the numerous and often equally voluminous efforts which have lately appeared Whatever the reader may think of the value of the conclusions reached, he will agree that Professor Douglas has been exploring a most difficult piece of country, and that he shows the enterprise, zeal and ingenuity of the true pioneer At the same time, he brings back reports which do not exaggerate the extent to which he has been able to clear a path, and when he is beaten, he is not afraid to say so Would that the same could be said of all exponents of inductive methods !

Professor Douglas starts by emphasising the interdependence of wages interest and rent in the general problem of distribution, and outlines his objectives—namely, to measure the approximate effect upon production of each factor, to measure the variation in the supply of each factor resulting from changes in its remuneration, to take into account the historical, psychological and institutional influences affecting the factors, and lastly to determine the correspondence between the actual course of wages and interest and his theoretical expectations As a preliminary,

he then reviews the development of the theory of production, and in Chapter III he conducts an admirable examination of the postulates of the marginal productivity theory, concluding that it does describe a portion of reality, and that the results are "modified but not vitiated by the presence of other forces which are at work," as well as those of which the theory explicitly takes account. He therefore accepts the theory as a proper and suitable basis for his inductive studies.

In Part II Professor Douglas therefore sets out to discover the productivity curves of labour and capital. He first builds up an index of the growth in the volume of fixed capital in the United States from 1899 to 1922, and then a series representing the growth of the labour supply for the growth of production he utilises the Day index. By combining the three, he is able to calculate the relative ratios in which labour and capital were combined, and the relative amount of labour and capital per unit of product: thus in 1922 only 37 per cent as much labour was combined with each unit of capital as in 1899, and in 1920¹ only 84 per cent as much labour was embodied in each unit of product as compared with 176 per cent as much capital. But the main task is to develop an equation of production showing the quantitative influence of labour and capital upon production. The accomplishment of this task is perhaps the most interesting part of the whole book, and certainly the most original of its contributions to knowledge. An equation is obtained which gives a correlation between the computed curve of production and the actual curve of no less than 0.97. Over the period as a whole labour is found to "contribute" three quarters and capital a quarter of the total product, and then marginal productivities are calculated year by year: the normal flexibilities of these curves, and hence the normal elasticities of demand for the two factors, are then deduced. The findings may be summarised as follows: an increase of 1 per cent in the quantity of labour causes the total product to be increased by 0.75 per cent and lowers the marginal productivity of labour by 0.25 per cent, while a 1 per cent increase of capital increases the product by 0.25 per cent and lowers its marginal productivity by 0.75 per cent. The elasticities of demand are -4.0 for labour, and -1.33 for capital.

The previous paragraph is not intended to be an adequate summary of Professor Douglas' methods or results: it is simply intended to whet the curiosity of potential readers. This pro-

¹ The 1922 figures are for some reason obviously abnormal

duction equation is next applied to the more comprehensive data available for Massachusetts and New South Wales the results are, of course, slightly different in each case, but the broad conclusions are the same. Comparisons are then made between movements of real wages and of average value productivity, in order to test whether actual distribution conforms to theoretical expectations. The cumulative weight of evidence can hardly fail to impress the equation can scarcely be a mere chance relationship. Professor Douglas points out that its terms need not, and probably will not, be the same for all periods and all countries, and in other ways he is careful to explain its limitations. But one wonders whether even so the relationships can really be as simple as he believes. He himself has obviously been worried by the fact that qualitative changes in the nature of the labour and capital are apparently of no account in other words, that technical progress has apparently been left out of the picture. On pp 209-215 he discusses this difficulty, and on the whole he seems to be satisfied, although he admits that further investigation is probably required. While giving due weight to the arguments advanced on these pages, this still seems to me a very serious weakness, and it suggests that there ought to be more terms in the equation, even if for certain countries at certain periods their effects cancel out. There is also at least one other matter which seems to deserve more adequate treatment than it receives—namely, the assumption that production in general is characterised by constant returns. This issue is discussed on pp 20-25, but the possibility that the conclusion there reached may not be correct is not considered in relation to the subsequent inductive studies. Many economists would doubtless agree with Professor Douglas, but at the least the case is not proven, and it seems a little rash, if not positively dangerous, to build inductive studies solely on an assumption of this character.

Taking a broad view of this part of the book, however, there can be no doubt that Professor Douglas has hit a "good line" for his pioneer path-making, and even if here and there it is a bit swampy, it may still prove possible to construct a solid highway, while if deviations of the route at these points should prove desirable, nothing much will have been lost. Let us now see how he fares with the corresponding work of measurement on the supply side. Part III starts with a rather long chapter entitled "The Theoretical Implications of Relative Elasticities of Supply," which might be uncharitably described as exercises with supply curves were it not for some very suggestive incidental points

Chapters XI and XII concern the short-run supply curve of labour, the broad conclusion being that for the United States this is negatively inclined with an elasticity between -0.24 and -0.33 . These chapters are rather packed with figures, but the results are worth while, even if they are probably of a transitory character. When he comes to the long-run supply of labour, Professor Douglas has much to say on population theories past and present, and he then reviews a mass of population statistics in order to test the classical doctrine that the long-run supply of labour is very elastic, concluding, as might be expected, that the opposite is nearer the truth to-day.

Coming to the supply curve of capital, Professor Douglas has no difficulty in revealing the multiplicity of opposing theories, and he remarks that the real solution "will in all probability have to come from inductive studies". But it cannot be said his efforts get us much nearer a solution, as he himself recognises, adding that until we do reach it "one of the most fundamental forces in economic life will be unplumbed"—a true statement if ever there was one! After a mere glance at the supply of natural resources, Part III is concluded. Part IV contains a summary and some general conclusions.

If this review has been mainly descriptive rather than critical, it is because I am anxious to bring out the very wide scope of this book. Comparatively few readers, perhaps, will struggle through its 502 pages of text, not to mention the 50 pages of statistical data which follow, but there are still fewer students of economics, various as their particular interests may be, who will not find something of a novel and stimulating character somewhere between the two covers. Probably everyone will also find matter for criticism, and there is little difficulty in doing so. But, as the author is at pains to point out, this book, despite its length, is only an interim report on labours which are to be continued. As such, it should earn for its author every encouragement to proceed, for if inductive study can yield substantial results, Professor Douglas will make it do so.

J W F ROWE

*Pembroke College,
Cambridge.*

Twenty Years of Federal Reserve Policy By S E HARRIS,
Ph D (Cambridge, Mass Harvard University Press.
1933 2 vols Pp lxi + 365 \$7 50)

The Federal Reserve Board By W O WEYFORTH (Baltimore
The Johns Hopkins Press 1933 Pp x + 216 \$2 25)

The Federal Reserve Act, its Origin and Problems By J LAW-
RENCE LAUGHLIN (New York The Macmillan Company.
1933 Pp xii + 400 18s)

DR S E HARRIS has produced a work that will be indispensable to all close students of the Federal Reserve System. He has sedulously explored the voluminous sources of information, including mimeographed letters and statements of the Federal Reserve Board. He has applied scholarly method to their treatment. And he has compressed his findings into two large volumes, judicious and compendious. His mind is well-balanced and fair, and his critical faculties keen. The result cannot but be a work that demands serious attention.

It is difficult, however, to regard this commentary—and probably Dr Harris would not claim that it should be regarded—as a final judgment on Federal Reserve policy even before 1929. Two qualities are lacking.

In the first place, the author does not have, or anyhow does not present, a clear and coherent theory of central banking. In the absence of this, criticism loses much of its authority. In his opening sentence he says that the reserve system has notwithstanding difficulties functioned remarkably well. He develops criticisms against certain tendencies and against its policy in certain phases. Now, since there is no background of fundamental principle regarding what a central bank, in the circumstances of the U S, can do or should do, or regarding the effects of its actions, criticism has to confine itself to pointing out that action often failed to secure publicly announced or generally desired objectives. But criticism of this kind is not definitive. Dr Harris might defend himself by pleading that there is no well-authenticated corpus of banking theory for him to rely on, that this whole field is strewn with the debris of controversy, and indeed that, while completely lacking a foundation of theory to build upon himself, some of his findings may provide future theorists with materials for their work. While Dr Harris cannot subscribe to the hopes and faith of recent monetary writers, it must not be supposed that he reverts to the dogmas of an older school, with their “rules of the game” or “automatic working”

On the contrary, his attitude is one of general scepticism. This plea, if upheld, leads to the conclusion that Dr Harris has done all that is now possible. But it does not rebut the view that his commentary cannot be regarded as final. When banking theory has been reconstructed, the historian of the future, armed with sharper tools, may be able to re-write the history of these twenty years, giving different emphasis and summing up in a different way.

Secondly, exhaustive as Dr Harris's researches have been, they have been strictly limited in scope. He has explored banking documents and banking statistics. His criteria for the success of policy are drawn from results within the field of banking itself. Yet the object of a central bank should be, and that of the Federal Reserve System explicitly has been, to provide certain conditions for industry and trade. These receive the barest passing references. Judgment on policy in the crucial years 1927-1929, which Dr Harris examines in minute detail, must depend on the effect of that policy on general economic conditions, and can only be passed, when those conditions have been as carefully studied as Dr Harris has studied the inside of the banking world. Of the movement of prices, the rate of increase of production and efficiency, of the balance between the production of capital and consumable goods, of inflation and deflation of industrial profits we hear nothing. Yet it is by reference to these that the final verdict must be given.

Dr Harris's first volume is primarily concerned with the pronouncements of officials, as helping to interpret the policy of the system during twenty years, while the second contains a statistical investigation of the facts in the period from 1927 to 1933. Dr Harris's work on pronouncements is most careful and informing, at times, however, one is inclined to suspect that he identifies the pronouncements of officials with what was in their minds too readily. For instance, he shows how political pressure led to disavowals about the effectiveness of rate policy for various purposes. He slips too easily to the conclusion that the officials really thought it ineffective, and, worse, to the view that it really is ineffective. He is probably too pessimistic with regard to the feasibility of a penalty rate. What is required is not that the central bank rate should be superior to all current rates of member bank lending, but there should be a substantial and squeezable block of loans, ultimately dependent on member bank credit, the rate on which is below the Federal Reserve rate. He has an interesting section on Acceptance policy. He does not bring out

the point that the original object of the System in supporting the Acceptance market (like a government imposing an infant industry duty¹) was that ultimately the market should stand on its own legs. Twenty years of Protection (as in other cases¹) have not sufficed. If ever the market did stand on its own legs, the special Federal Reserve buying rate for acceptances could be abolished, and the discount of acceptances below the Federal Reserve rate would constitute the block of lending required to make the Federal Reserve Discount Rate an effective penalty rate. Apart from this, however, it seems worth exploring other possible means of making the Discount Rate more effective.

Dr Harris's chapter on Open Market Operations is rather unsatisfactory. Let it be granted that the inverse relation of the open market holding of securities to other earning assets of the Federal Reserve Banks is not so close as used to be contended. Let it be granted, as Dr Harris urgently argues, that there are other important factors affecting member bank balances, namely, gold and currency movements. Let it be granted that the size of member bank balances is as important as the scale of their indebtedness in determining credit conditions. There may have been fallacies and illusions. The great potency of the Open Market weapon remains. Dr Harris's attitude to the weapons of the Discount Rate and Open Market Operations illustrate his scepticism about banking theory. Some will feel that this scepticism is a little overdone.

The second volume contains a great deal of most interesting statistical analysis. In particular he has done valuable work on the inter-district movement of funds, and on the relation of demand deposits to net demand deposits. It is a pity that his reflections on the latter topic, which are somewhat dispersed, were not brought together into a single discussion, in which his conclusions would have been more clearly formulated. At times he becomes so absorbed in the pursuit of these investigations, that the historical thread is lost. His results, when they emerge, are, however, always relevant.

It would be rash indeed to challenge Dr Harris on a major question of fact. The matter, however, is of central importance. He has a chapter on the "disastrous reversal of policy" in the period of September–December 1928. Can there really be said to have been a reversal? Contrary to his wont, Dr Harris does not give chapter and verse. He relies on two figures. One is the increase in the Federal Reserve Banks' holding of securities by 28 millions. But this figure is too small to be significant.

The other is an increase in their holding of acceptances by 293 millions. But what can be deduced from this? There was no reduction in the buying rate during the period. The normal attitude of the Banks to the *volume* of acceptances is one of passivity. In what sense did they change their policy? The acceptances came in, as expected, in the normal course of autumn trade. In the early part of the year the Banks had been screwing up the pressure. Then they desisted from turning the screw further. Can more be said? They did not release pressure. Can this truly be called a reversal?

Dr Harris views Federal Reserve policy after 1929 with some complacency. That is consonant with a purely banking point of view. Yet in the world outside there is the glaring contrast between the apparent success of the system in providing sound conditions for trade and industry between 1921 and 1929 and their apparent failure thereafter. It is sometimes urged that the seeds of trouble were sown by the policy before 1929. But there is much to be said for the opposite view that, even having regard to the future, the Reserve Banks could not have done much better than they did before 1929, that only a different policy after October 1929 could have averted subsequent troubles. Dr Harris has done important preliminary work, but it is only a part of the work that will have to be done before that question can be decisively answered.

Professor Weyforth's excellent book will appeal to a wider circle of readers. It is written with admirable lucidity and directness in a dignified English style which has a nineteenth-century flavour. It consists of a plea for vesting control over the Discount Rate and Open Market Operations unequivocally in the Federal Reserve Board. A clear sketch of the salient relevant facts in the history of the inception and development of the System is followed by a well-reasoned statement of the case for centralised control in fundamental matters. The present constitution is one of checks and balances. But, where timeliness of action is of the essence of the matter, this is inappropriate.

Professor Weyforth has illuminating discussions of the international relations of the System, of the difficulty of recruiting men of the highest calibre to the Board, which would be overcome by an enhancement of its power and prestige, of Mr Warburg's proposal, which he endorses, for banking representation on the Board, and of recent legislation. On the last of these topics he notes the tendency to give wider powers to the Board, but claims that these are based on no logical theory of demarcation. Endow-

ing it with strong weapons for bringing direct pressure on members, which might well be left to the Reserve Banks, this legislation leaves almost untouched the division of authority on the vital question, essentially general and national in character, of the total volume of credit to be advanced by the System

One paragraph in the narrative section suggests an interpretation of history which was perhaps not intended by Professor Weyforth. He describes how in March of 1930, the old informal Open-Market Investment Committee, consisting of the governors of the Boston, New York, Philadelphia, Chicago and Cleveland Banks, was superseded, on the initiative of the Board, by the Open Market Policy Conference, consisting of one representative of each of the twelve banks. Opinion within the System, as outside it, was oppressed by the events of the previous autumn, and was nervous about the constructive policy pursued in the past. The new constitution would render quick aggressive action most unlikely in the near future, at that time of destiny when it was never more needed. The change symbolised the triumph of conservatism and timidity.

A new work from the hand of that doyen of banking studies, Professor J. Lawrence Laughlin, is always a matter of interest. He provides a detailed account of the plans and negotiations leading up to the passage of the Federal Reserve Act, and, especially, of the important work of education and propaganda, conducted by the National Citizens League, of which he was chairman of the executive committee. He himself drew up a plan containing many of the important points which were ultimately embodied in the Act. It is good that his own account of these events should have been made public.

The second section of this volume is concerned with recent developments and contains opinions on banking principles. There is also a fierce attack on leading contemporary authorities, but it does not show a profound understanding of the bearing of their work. "The English writers of to-day," he says, "are imbued with a strong belief in the quantity theory of money (except T. E. Gregory). This attitude was an outcome of the theory known as the Currency principle in 1840." This section is somewhat pontifical and does not give much serious food for reflection.

R. F. HARROD

*Christ Church,
Oxford*

- Principles of Money and Credit* By ROY L GARIS (New York
The Macmillan Company 1933 Pp 520 10s)
- The Economics of Saving* By J HARRY JONES (London
Reed & Co 1934 Pp 171 3s 6d)
- Exchange Control* By PAUL EINZIG (London Macmillan
& Co 1934 Pp ix + 195 7s 6d)
- Quotas or Stable Money* By E O G SHANN (The Australian
Book Coy 1933 Pp 97 3s 6d)
- Gold Reserves and the Monetary Standard* By D S EDWARDS
(P S King & Son 1933 Pp 148 5s)
- The Dollar, the Franc, and Inflation* By ELEANOR LANSING
DULLES (New York The Macmillan Company 1933
Pp vii + 106 5s)

PROFESSOR GARIS has written a text-book which covers much more ground than is generally attempted in volumes with a similar purpose, and there are few aspects of the problems of money and credit which do not find some place in these closely packed five hundred pages. The volume, however, is written mainly for American readers and the illustrations are drawn almost entirely from the experience of that country. Part I deals with the nature and functions of money, the evolution of monetary forms, the controversies concerning monetary standards, the American monetary system, the effects of changes in the value of money, and problems of monetary reform, while Part II deals with the nature and functions of credit, credit instruments, the foreign exchanges, the control of credit, and the legal aspects of credit as based upon the law of negotiable instruments. In all, the survey is very comprehensive and useful. There is, however, a tendency for the author to quote authorities too freely in place of argument, and a number of the quotations, especially those taken from newspapers, are somewhat superfluous.

The Economics of Saving, which is a reprint of a series of articles from *The Building Societies' Gazette* together with a paper read before the International Congress of Building Societies, is an excellent example of popular economic exposition. It does not claim to be more than this, but it shows that the avoidance of technical terms need not prevent the economist who really understands what he wants to say from expounding elementary but fundamental economic conceptions to a lay audience. And this is important, since the science of economics, unlike the science of chemistry, derives much of its significance from its ability to mould opinion. In this little volume, Professor Jones deals with

saving and capital, interest and saving, expenditure in relation to economy, the future of the rate of interest, he also touches incidentally on over-saving and under-saving as suggested causes of the trade cycle. The reader might perhaps be excused if he asked for more, and though the trade cycle does not form the main theme of the book, it would not have been unfortunate if Professor Jones had added an additional chapter developing his analysis of the trade cycle.

One criticism may be suggested. Professor Jones is anxious to prove that the supply of capital is inelastic. "I do not believe that capital has a supply price, that the supply is elastic. I do not believe that a rise or fall in the rate of interest is followed, as effect follows cause, by a rise or fall in the supply of fresh savings or rate of accumulation of capital" (p. 16). In supporting this view he refers to the automatic saving of those who are too rich to do anything else, and to those who save for a specific object, so that a fall in the rate of interest induces them to save more while a rise in the rate of interest leads them to save less. Professor Cannan has surely demolished the idea that this latter case has any significance. In the case of the first point, even if we assume the existence of such automatic savers, a change in the rate of interest will affect the total incomes of such people and therefore their ability to indulge in automatic saving. A fall in the rate of interest, by reducing their total incomes, will reduce the amount of surplus income which is left after the customary standard of life has been maintained. It is true that the rate of interest depends upon the demand for capital and its supply, and that the amount of the annual addition to the stock of capital represents only a small proportion of the total stock. A change in the amount of saving may not have much effect upon the rate of interest, but it does not follow that a change in the rate of interest has little effect upon the volume of new saving. There is a danger that the author may in this chapter encourage misleading ideas on the part of his readers.

Dr. Einzig is a prolific writer, but this new volume is in some respects the best that he has yet written, and it fills a gap in contemporary literature. His exposition of the different types of exchange control is very lucid, even although economists generally may not accept all his conclusions. Dr. Einzig holds that the classical rule that a depreciated exchange resulting from an adverse trade position will automatically correct the adverse balance cannot usefully be applied under present conditions. In the case of Great Britain, "owing to import restrictions applied by most

countries, and also to the greater degree of elasticity of the economic system of several commercial rivals sterling would have had to be allowed to depreciate to a very great extent before the desired equilibrium could be established—if, indeed, it could be established at all by such means. An excessive depreciation of sterling would have accentuated deflation, and would have aggravated the world crisis" (pp 68–9). On the other hand, he recognises that "while many people would consider it desirable to eliminate the danger of the depreciation of the few currencies which are still on an effective gold basis, it is questionable whether it would be wise to enable the countries concerned to have an unbalanced budget without running the risk of paying the penalty for it, through a depreciation of their currencies" (p 103).

It is not obvious that "whenever an exchange is maintained at an artificial level with the aid of exchange restrictions, an unofficial market develops, the quotations of which represent the natural price of the currency concerned" (p 112). Apart from the special risks connected with dealings in the unofficial market, the rate in that market is not necessarily the same as it would be if all dealings were entirely free. Then, in his discussion of the economics of exchange clearing devices, Dr. Einzig argues that these devices tend to reduce restrictions on foreign trade, and also to increase the volume of foreign trade "because imports and exports between the two countries tend to be balanced in an upward direction" (p 142). If one of the two countries has an export surplus, that country will either export less in future or will import more from the other, and this latter alternative, according to the author, is the one which is likely to be adopted. Under present conditions, however, any excuse for imposing new import restrictions is quickly taken advantage of, if it were not so, there would be even less justification for such artificial devices.

Professor Shann's little volume consists of three essays embodying his reflections on the Ottawa Conference of 1932 and the World Economic Conference of 1933, at both of which he was a member of the Australian delegation. The essays are written for popular consumption and contain a trenchant but well-deserved exposure of the confusion of ideas and the political ineptitude which prevailed at these two Conferences. The choice, as the author sees the present position, is one between tightening still further the impediments to world trade and a restoration of tolerable stability in the purchasing power of money. His counterblast makes healthy reading, and one could wish for him a larger public, more especially among the now popular restrictionists.

Mr Edwards favours the idea of a return to gold standard conditions, but in a more managed form than hitherto. Among other things, he criticises the Reports of the Gold Delegation of the Financial Committee of the League of Nations for their failure "to consider adequately the actual facts of gold supplies and demands" (p 55). The Final Report proposed to patch up the gold standard system so as to meet the possibility of a decline in new gold production, yet "an ostrich-like obstinacy towards the facts of gold supplies and their probable utilisation over the next hundred years stamps their counsel" (p 47). Even the Note of Dissent signed by three members of the Delegation does not investigate the problem fully. The author then proceeds with his proposals for the appointment of a Currency Board which would determine at two-monthly intervals the fiduciary issue of the Bank of England for the ensuing two months, the Bank being required to expand its discounts at an agreed rate in such a way as to give full effect to the conclusions of the Board. Mr Edwards leaves nothing to the imagination. The Board is to have offices at the Bank free of charge, the salaries and retiring allowances of its members are given in detail, and the personnel of the Board is fully established, together with the voting powers of each member. Some members are to have one and a half votes! The Board would have two panels, representing United Kingdom and Overseas Commonwealth members respectively, the former panel including individuals nominated by the Council of the Royal Economic Society, the Council of the Royal Statistical Society, the London School of Economics, and the Faculty of Economics at Cambridge. Certain members would also be nominated by representatives of a group of banks which includes all the "big six" banks in England and—of other banks—the Royal Bank of Scotland, though no special reason is advanced for thus favouring this last institution.

Miss Dulles writes in a straightforward way on the perils of inflation as illustrated in particular by the post-war experience of France, and with an eye on the monetary experiments of the United States. No justification is to be found for a policy of deliberate currency depreciation. The narrative is simply told and is unencumbered with complicated technicalities. But the tale is mainly a French one and there is no particular discussion of the problem in the United States, though this might have been expected from the title of the book.

The Search for Confidence in 1932 Issued by the Unclaimed Wealth Utilisation Committee under the chairmanship of Mr A H Abbati, with an introduction by SIR BASIL BLACKETT (P S King 1933 Pp ix + 109 6s net)

Economic Readjustment in 1933 Issued by the same Committee (P S King 1934 Pp xiii + 102 6s net)

SOME SIX years ago, in a book called *The Final Buyer*, Mr A H Abbati gave an analysis of the relation between savings and investment which was in many respects in advance of anything else of its kind at that time existing in the English language. Since then much development has taken place in the theory of money and the trade cycle, and the interest of *The Final Buyer* is now mainly historical. Since then, too, Mr Abbati seems for his part to have forsaken further theoretical work for propaganda. But the Bulletins reprinted in these two volumes are permeated by a level of instruction and intelligence quite foreign to the bulk of popular journalism. They are mainly a record and commentary on current events of economic importance, with occasional slight theoretical digressions. In the events of 1930-31 their author saw the need for a vigorous campaign to combat deflation. He strives accordingly for public works, "moratoria" for taxpayers, freer trade, the settlement of international indebtedness, and many other things desirable in deep depression. The Bulletins are sometimes picturesque but never dull, and so far Mr Abbati deserves every support. Whether he would always be worth supporting is more doubtful, for there is no sign that his theoretical outlook has advanced since *The Final Buyer*. He is a good enough guide to deflation, but one doubts whether he is sufficiently sensitive to the dangers of inflation. Especially one cannot help suspecting that he under-rates the importance of studying the functions of the rate of interest. If Mr Abbati wishes to remain a reliable guide when things get better, he should read Wicksell and Mises.

HAROLD BARGER

*University College,
London*

Unbalanced Budgets By H. DALTON, BRINLEY THOMAS, J N REEDMAN, T J HUGHES and W J LEANING (George Routledge and Sons, Ltd 1934 Pp xi + 468 15s)

THE influence of industrial fluctuations upon budgetary problems has long been recognised, but it is clear that certain

post-war tendencies towards the development or extension of unemployment insurance and relief, and the undertaking of programmes of public works have greatly increased the difficulty of balancing budgets in periods of trade depression. This group of investigations is not, however, solely concerned with the obvious fact that falling revenues together with expenditures, which were partly fixed and partly increased as a result of the slump, involved deficits in the national accounts. Mr Brinley Thomas, for example, in a study of Germany which covers a large part of the whole volume, deals with banking reform and exchange control, and Mr Hughes in an account of Italy has a short but interesting section illustrating the vast extent to which State control of industry and investment has developed under the Fascist régime.

What attempts have governments made to stem the current of fluctuations by pursuing appropriate financial policies in boom and depression? The answer provided by these studies seems to be that financial policies have almost invariably tended to exaggerate fluctuations. Expenditures were increased and taxation reduced in the boom years prior to 1930, while since then exactly the opposite course has been followed.

Deflationary policies have been pursued in many cases with extraordinary severity, prices, rents, interest, salaries and wages being all sharply reduced. But, as Mr Brinley Thomas points out, "a uniform cut in the level of costs, prices and incomes could not restore equilibrium. On the contrary, it led to a further shrinkage and a secondary deflation." Some countries, however, attempted half-heartedly to reverse their deflationary measures, thus, as Mr Reedman shows, Czecho-Slovakia pursued a contradictory policy which combined cuts in pay and expenditure with a small programme of public works. Sweden appears to be the only country in which a vigorous public works policy has been adopted. (In view of the fact that Sweden has also been attempting to stabilise the price level, we may look forward with interest to the results of Mr Brinley Thomas's further investigations into Swedish economic and financial policy.) In Finland, however, where "the total capital actually invested by the State between 1922 and 1927 was greater than the total outstanding amount of the public debt in the latter year," the depression has simply led to a reduction in capital investments. In an entirely different category is Italy, where extensive public improvements have been carried out since the war and where programmes in recent years "are not drawn up primarily with a view to dealing with the un-

employment problem, but rather in order to increase national development and productivity ”

In his Conclusions Dr Dalton calls attention to the flagrant departures from the much-advertised principle of equality of sacrifice He also points to the breaches which the depression has made in the system of contract on which the capitalist organisation of society is built up The question whether this will lead to the Planned Economy which he hopes for, or to a policy of control and restriction masquerading as planning, remains to be decided

E L HARGREAVES

*Oriel College,
Oxford*

The French International Accounts, 1880-1913 By HARRY D WHITE (Oxford University Press, London Humphrey Milford 1933 Pp xvii + 352 20s net)

THIS study of the French trade balance during the period 1880-1913 was planned primarily as a contribution to the inductive examination of the theory of international trade, particularly as regards the mechanism of adjustment under gold standard conditions Its main appeal is, therefore, to the economist and the statistician, but it contains a good deal that is likely to be of interest also to the economic historian

In attempting to estimate year by year the value to be assigned to the various items entering into the French trade balance, the author has had no enviable task Imports and exports, though supposed to be valued respectively *c i f* and *f o b*, are believed to be undervalued—to the extent of probably 3 per cent in the case of imports and 5-15 per cent in the case of exports There are other serious defects in the official statistics, such as the undervaluation of the parcels post These, however, are minor difficulties in comparison with the problem of estimating the “invisible” items, the most important of which, are income from foreign investments, tourists’ expenditure and earnings of French shipping The author, realising the poverty of his material and the conjectural nature of some of his estimates, issues a warning that the probable error in many of the estimates and statistical series is greater than would be found in studies of England, Canada, the United States, or for a later period in France, and that the conclusions, therefore, are to be accepted with greater caution

The period was one in which the outflow of capital was large
z z 2

and almost continuous, though subject to wide fluctuations. In the aggregate the amount of new investment about equalled the income received, but this, of course, did not hold of particular years. In most years there was a considerable difference.

The author finds that capital movements are correlated with merchandise movements, *i e* with the difference between commodity imports and exports, to a degree high enough to suggest that the adjustment of disequilibria occurred through movements of merchandise rather than through movements in the invisible items. He examines the possible means through which capital exports can influence or be influenced by merchandise movements, and attempts to evaluate the potency of the various means in the case of France. Movements in exchange rates between France and other gold standard countries he considers to have been of negligible importance in checking or stimulating merchandise movements. Exchange movements between France and countries not on the gold standard may have been important especially in their effect upon French imports, which were derived to the extent of one-quarter from such countries. Funds lent abroad were not to any great extent spent upon the purchase of French goods, and attempts to link up loans with exports were definitely a negligible factor in French merchandise movements.

Orthodox, or, as the author calls it, *neo-classical*, theory holds broadly that an unsettled balance of payments reflects itself in the rate of exchange, and, when (under gold standard conditions) this moves more than a certain distance from parity, shipments of gold result. This tends to produce a tightening of discount rates and contraction of credit in the gold-losing country, and an easing of discount rates and expansion of credit in the gold-gaining country, and this in turn brings about a readjustment of relative price levels in the two countries and a rectification of merchandise movements. From an examination of price movements and physical volume of imports and exports the author finds a relationship in accordance with the orthodox sequence. Relative increases in the price of imports were accompanied by declines in the physical quantities, and relative decreases in price by increases in physical quantities, and the changes continued until in a large number of cases there was a rough approximation between the changes in the values of the merchandise balances and the capital exports. An analysis of French banking and monetary movements, however, failed to reveal such a connecting link as was required to explain the adjustment on the lines of the orthodox theory. No correlation could be found between gold

movements and capital exports, while the discount rate of the Bank of France was almost totally unresponsive to gold movements, which exerted very little influence on the volume of credit or on the note circulation. This might lead one to consider whether the orthodox theory was not fulfilled in a manner modified only by the peculiarities of the French financial system. For example, the fact that obstacles were liable to be imposed upon the free export of gold from France suggests the possibility that gold shipments on French account may have been made through London. The insensitiveness of the Bank of France discount rate suggests also that a larger part of the work of adjustment may have been thrown upon other countries. The author, however, does not go into these aspects of the question. He concludes rather that the adjustment of disequilibria in the French balance of payments cannot be explained on the lines of the orthodox theory alone. He is disposed to doubt whether in general there is any justification for assuming that the specie-flow-price mechanism is the sole or even the dominant means of adjustment, though he recognises that it is "doubtless one of the forces". The rapidity with which adjustments take place may, he thinks, be explained by regarding changes in demand schedules induced by movements of capital and unaccompanied by price changes as an important instrument of adjustment. Demand schedules in the lending country move to the left and demand schedules in the borrowing country to the right, and this at once influences imports and exports. In response to the objection that without price changes there is no visible mechanism to bring about equality between capital exports and merchandise movements, he points to the growing practice of keeping foreign balances in the lending countries, and claims that an increase of foreign balances is regarded by banks in borrowing countries as equivalent to an increase of cash holdings and may thus bring about an expansion of deposits in their domestic banking system in excess of the quantity of increased reserves.

This supposed mechanism of adjustment which the author seeks to describe seems, nevertheless, to be too unsubstantial to bring about results as immediate and definite as those which he is inclined to attribute to it.

In conclusion, it may be mentioned that the author gives some consideration to the economic effects of capital exports with special reference to French investments during the period with which he is concerned. He puts the blame for the unwisdom which characterised a large part of the investments made mainly upon

the banks and the corrupt financial press. The close relation between finance and French political aims during the period, a point which has recently been developed by Feis (*Europe the World's Banker*, 1870-1914), might also have been stressed.

C K HOBSON

The Planning of Agriculture By VISCOUNT ASTOR and DR K A H MURRAY (Oxford Univ Press, 1933 Pp xvi + 186 6s)

IN 1932 Viscount Astor and Dr Murray published a book entitled *Land and Life*, the thesis of which was a criticism of the Government's wheat and sugar-beet policy, and an appeal for a revision of official ideas on British Agriculture in the light of its modern organisation and problems. Since this book was published an increasing measure of authoritative and responsible support has been given to the live-stock policy therein advocated. *The Planning of Agriculture* is a sequel to *Land and Life*. It is critical rather than constructive, but throughout its ten chapters a carefully considered argument is developed, which should be of great service in dispelling the fog which frequently envelopes discussions on this subject. Decidedly it is one of the better books for those who are interested in the future of British farming. In his Foreword, Sir Arthur Salter emphasises the dangers which the lack of a stable policy entails. "In this country the official attitude towards agriculture tends to alternate between periods of neglect or inaction and periods of hasty and inadequately considered activity. We are now in one of the second of these periods. It is one of great danger. There is a very serious risk—above all to British agriculture—in meeting temporary troubles by permanent measures."

If the present critical state of agriculture and the disastrous low level of prices are due to a general maladjustment of supply and demand, should the cure be a restriction of supply or an increase in purchasing power? Does output restriction necessarily raise the incomes of the agricultural community? Is marketing reorganisation a sufficient remedy for low prices? Is control of market supply sufficient to control price, or must one proceed further and control production as well? Can the farmers of this country control the total supply of any one commodity? Is control of agricultural production in this country possible or wise? Are the forms of organisation for control in industry applicable to farming? If the organisation and combination of

producers is possible, how far can this be used for forcing up prices? How large a part for any success depends on State action, and how far can the State go in protecting the farmer? These are a few of the questions which must be examined before any settled agricultural policy can be established, and these, and other points, form the subject-matter of this book.

Interest in the fate of British agriculture centres for the moment round the schemes set in motion under the Marketing Acts. It appears that the State proposes to leave control very much in the hands of producers themselves, but the authors show that the difficulty of controlling production alone sets a limit to the possibilities of price control. Fluctuations in the value of money, and most of the other demand factors, are also beyond the control of farmers, whether individually or organised. But even if price control offers such limited possibilities there are other reasons for, and methods of, reorganisation open to farmers and the State. On the individual farm great changes in organisation have occurred in the past, and are occurring at the present time more rapidly than many people believe. Not only is the "balance of enterprises" being rapidly altered, but production costs are being reduced, and quality is being given even more consideration. There is scope for further development along such lines. Distribution, both wholesale and retail, also appears to offer opportunities for greater efficiency by co-operation and other methods, while producers' organisations, controlling processing and manufacturing, could do much to alleviate the effect of market surpluses. Organised producers can achieve orderly marketing—the regulating and adjustment of shipments to suit market conditions, etc.—while the extension of the method of sale on contract, embodying price agreement, would eliminate some of the risks of price fluctuations.

The State also has a part to play in the reorganisation of farming, and three types of policy are distinguished, viz (1) a policy of temporary relief to tide over a temporary crisis, (2) a policy of maintaining British agriculture at an artificial level, and (3) a policy of reorganisation and reconstruction on purely economic lines. In the opinion of the authors British farming must sooner or later face up to the third of these, and the considerations involved in working for such an objective are discussed.

R. McG. CARSLAW

*School of Agriculture,
Cambridge*

Agriculture and the Trade Cycle, with special reference to the Period 1926-31 By JOHN H. KIRK, B A, B Com (London P S King 1934 Pp xiii + 272 12s)

Books on the trade cycle are numerous, but it is always possible for a careful investigator to make new generalisations and new explanations. The value of these depends in each case upon the author's examination of statistics and his knowledge of economic theory. By these tests the present work stands well, though it is in no sense a final treatment of the subject, as the author himself is aware. The book falls into two parts, the first devoted to a study of the effects of cyclical fluctuations of trade on agriculture, and the second to the responsibility of agriculture for trade cycles. He has attacked these very complicated subjects by marshalling agricultural information and statistics and the results obtained by authors who have examined particular phases of agricultural fluctuation, and interpreting them in the light of economic theory.

Although the author finds that in the study of agricultural fluctuations it is impossible completely to disentangle cause and effect, he proceeds with confidence to examine the effects of defined causes. The first part treats successively of the conditions, economic and climatic, affecting the supply of agricultural products, certain aspects of the demand for farm produce, the effects of various methods and incidents of marketing, including producers' co-operation, and of speculation, agricultural crises due to slumps of prices, and problems of over-production, the last being a very interesting chapter. The general conclusion is that agricultural production responds freely to the industrial fluctuation of the trade cycle, though it is itself, in varying degrees at different times, the cause of industrial fluctuations.

The second part of the book begins with a discussion of some leading theories of the causes of the trade cycle. The author announces that he will "begin with a consideration of the respectable theories, and work up to the meteorological theories." The theories are grouped in four classes, beginning with the self-generative (e.g. Mr Hawtrey's) and ending with those which attribute trade fluctuations wholly to independent external causes, such as weather cycles. Examples of each class are examined. The causes of fluctuations in agricultural activity next claim attention, but this is a rather disappointing chapter, incomplete and not too well arranged. It is regrettable that, in discussing the influence of weather on harvests, the author did not avail himself of recent authorities on agriculture.

The last chapter, on "The Cycle of the Production Period," is the most original. The fluctuation of agricultural output occurs in a cycle averaging from three to four years, well marked in the United States. Movements of prices and production are held to be due to appropriate preceding movements of the other, and excessive production due to high prices, followed by liquidation of stocks, taken together, cover this period. Variations of the weather from year to year often reinforce this result.

There are many useful observations in the book. The elasticities of demand and supply of agricultural products are low, and the elasticity of supply is negative in certain circumstances. The discussions of cyclical movements in distributive costs and of distributive monopolies, and the diagrams which show how monopoly obstructs the expansion of consumption, are of great interest. Less satisfactory is the last chapter on the causes of the short cycle of about three years and of the long cycle, which the author finds to be usually $6\frac{1}{2}$ or $9\frac{1}{2}$ years, but averaging eight years. Mr Kirk, like many writers on the trade cycle, sees much that is true, but not the whole truth, which is immensely more complicated than is generally supposed. His realistic treatment, well illustrated with statistics and diagrams, should help towards dispelling the illusions of those who regard currency and credit operations as primary causes of industrial fluctuations.

H S JEVONS

Le Problème Mondial du Blé By PAUL DE HEVESY (Paris
Librairie Félix Alcan 1934 Pp 293)

In this book a Hungarian diplomat of wide experience proposes a solution to the problem of relieving the acute distress of the millions of wheat-growers throughout the world, and particularly in the great exporting countries overseas and in the Danubian Basin. Their trouble, due primarily to the very low wheat prices that have persisted now for several years, M de Hevesy attributes to over-production resulting from the expansion of overseas production aided by new technique, while European production has been rising towards its pre-war figure both in the large importing countries behind high tariff walls and in the exporting countries of Central Europe. While wheat is only one of many agricultural products whose prices are low relative to other things, M de Hevesy thinks it is a special case calling for and amenable to special action. He argues that an increase in wheat prices will aid other agricultural products but that most such products will have to wait on general recovery, since they have elastic demands. But the

wheat position can be greatly improved even before a return of general prosperity due largely to the inelastic demand—which has caused such trouble heretofore

To bring about this improvement by the way of raising wheat prices, M de Hevesy proposes the setting up of "L'Entente Internationale du Blé," which would have a monopoly of the international trade in wheat. Nearly all nations would be represented in this Entente and would have a voice in its policy. Importing and exporting nations would have to agree to trade only through this agency, and to do so would have to organise national monopolies in the import and export trade of wheat and wheat flour. The writer goes on to suggest—though it is not so essential for his plan—that at least the exporting countries should set up monopolies of the internal trade as well which could be used to persuade the producers to regulate their acreage in accordance with national policy, by means of paying higher prices to those who conform to the Government "suggestion." Rights to receive this higher price would be transferable, which would aid in adjustment of production to the most suitable land. It is also proposed that the countries should attempt to prevent the accumulation of surpluses by recommending acreage changes so that production will likely be just sufficient to cover domestic requirements (which can be fairly well estimated for wheat), plus the export quotas allocated by the Entente on the basis of import requirements for the coming year and the distribution of exports during past years. The present stocks of wheat which have been so effective in holding down prices would be bought up by the various Government agencies and held as "stocks d'assurance" against emergencies and to even out fluctuations, and will be necessary when it is attempted to regulate acreage to expected demand.

The fixation of prices would, of course, be the most difficult problem and every country would have to determine its own internal policy. The Entente would set international prices, preferably some time ahead, to assist producers' calculations. M de Hevesy goes to great pains to show that the Entente would not likely set prices too high, and in the scheme of voting he suggests importers have the majority. Indeed his argument might prove too convincing, and the exporters would attempt, perhaps, to set up their own monopoly. He tries to show that importing nations would not set prices too low because that would damage the purchasing power of the exporters, who are the customers and often debtors of the importers. He also says that

the importers will realise that higher wheat prices will aid general recovery and be desirable on this account

However, this argument, which is all too common with those pleading the agrarian cause, is at least weak if not fallacious. The increase of certain prices serves only to transfer and not create purchasing power. At best it may give more money to those more likely to spend it, but this may not be so for a rise in wheat prices where much of the proceeds may go to liquidate debts. In any case this point is most essential to M. de Hevesy's argument and he passes too rapidly over it.

The small fall in the price of bread in the last few years is used to argue that a considerable rise in wheat prices and farmers' incomes could be obtained without much increase in the cost of bread. While we are given some interesting facts on this we are left wishing for many more. The book is quite optimistic in regard to the amount of restriction necessary to secure a considerable rise in price and would appear to neglect, in estimating the over-supply in the last few years, the rather elastic outlets at very low prices which, though small in comparison to total demand, are larger than the increments in stocks have been.

The latter part of the book deals with the situation in various countries and their probable attitudes to the Entente. He notes particularly the change of American policy towards export quotas since the conference of 1931 and considers that Russia would be friendly, and in any case not dangerous, to this effort at capitalist stabilisation. While most of the book was written before the Agreement of August 1933, this is dealt with at some length. He considers that it is a good sign and may lead to closer control, but it is much too loose in its present form and is simply a formal admission of the facts. Unless some attempt is made to deal with stocks and to devise more effective means of limiting production, prices are apt to sag despite export quotas—even, we may add, if they were respected.

However, the progress of this existing agreement gives one hope that perhaps it may develop into an effective control such as M. de Hevesy envisages. Many countries have already developed programmes that look just as ambitious without being as thorough and essentially simple. Of course the scheme will be condemned as bureaucratic and impracticable by the grain and flour trades, whose interests it would undoubtedly damage.

While one may be somewhat disappointed that M. de Hevesy did not include more analysis of the problem rather than repeat some of what he said about his solution, the book is interesting

and the case clearly presented. Its usefulness is much enhanced by numerous appendices. Undoubtedly the book has been written with a humane desire to help those millions of sweating peasants and farmers whose sufferings have been so great in recent years.

R. B. BRYCE

*St John's College,
Cambridge*

Becontree and Dagenham By TERENCE YOUNG (London
Sidders & Son, Ltd 1934 Pp 420 10s 6d)

DAGENHAM is familiar to most people as an important centre for the mass production of motors, it is less generally known that it claims also to be the site of a remarkable experiment in housing, bold in conception and vast in scale. The idea of initiating a survey of the progress and results of this experiment was happily conceived by those who direct the affairs of the National Council of Social Service, and the survey was competently carried out by Mr. Terence Young, who lived on the spot for two years collecting material for the purpose with the help of funds provided by the Pilgrim Trust. All who are interested in the practice or principles of municipal housing should profit by the advice of Mr. Baldwin, who in a characteristically sensible and stimulating preface commends the book as one to be studied.

Although the title is Becontree and Dagenham, there are not—or there were not meant to be—two distinct housing estates. The original intention of the London County Council was to create a new township, complete in itself and under single control, but building began in separate localities, with the result that two parts close together in the north became known as Becontree and a third took its name from the neighbouring village of Dagenham. As it now stands the estate cuts across the boundaries of no less than three local authorities: at a rough estimate, 10 per cent of the population reside in the municipal borough of Ilford, 30 in the borough of Barking, and 60 in the urban district of Dagenham. Successful unification, hindered by this division of authority and other factors, has never been realised.

The purpose of the scheme was not to solve the housing problem directly by moving families out of the heart of the slums into open country. It was rather to relieve overcrowding indirectly by providing houses outside London for working-class people with a reasonably steady income who could afford to pay rents comparable with those of “controlled” houses. This, it was hoped, would prepare the way for clearing certain London

slums by setting other accommodation free in their neighbourhood

The resulting population is remarkable for its youth. At the 1931 census it numbered 96,376, of whom over 42,000 were children, also, more than half the total inhabitants were under 18 and three-quarters were under 36 years of age. The average size of family was high, 4.78 persons as compared with 3.46 in the County of London. Of the males, one in every four was engaged in transport and communication, *e.g.* as bus drivers, conductors, etc., one in ten in building and the associated industries, others in various manufactures, with an appreciable number of clerks and shop assistants, but a very small proportion of professional and higher grade workers. It should be noted, however, that the census was taken before the settlement of Ford's motor works in Dagenham. But this would hardly affect the conclusion that the estate is mainly peopled by young artisan families in which the men earn a wage somewhere between the limits of £2 and £5 a week when in work. Time alone will test the wisdom of the segregation of large numbers of households so similar in type—it is viewed with misgiving by some experienced observers.

The programme of the London County Council was to build, with the aid of the 1919 State subsidy, 29,000 houses in five years, and the greater part of these were to form the Becontree estate. But the pace of development was affected by changes in housing legislation and the restriction of grants due to the post-war depression. Though the first houses were ready for habitation by the end of 1921, the last were not completed until the early part of this year. Actually, therefore, it took thirteen years to complete the programme that was originally contemplated.

Even as it was the increase in the population—which in one year (1928–29) was not far short of 20,000—sometimes outran the resources of the organisation and social services required to cope with it. We read that “hundreds of new people were coming to a strange place every week, many of whom needed advice and help and most of whom needed some spare-time activity and interest. Those responsible for the institutions which had commenced earlier on were already fully engaged and those responsible for the later ones were overwhelmed before they had time to plan out the most useful organisations and services. Organisations experienced rapid changes of officers, partly due to the rapid influx of new members and partly due to the removals from the district and were consequently often badly run.”

We can readily imagine the conditions which might have

resulted had the families flocking into the new area been of the type which is bred in the slums, but for the most part they were self-reliant, adaptable and trustworthy, and in course of time they dug themselves into their strange quarters with remarkable assiduity and success. They could hardly be described as sheep without a shepherd, their vision, however, was in general limited to their own immediate needs. They lacked the qualities which make for social leadership, or perhaps it would be fairer to say that their previous experience had not encouraged the cultivation of such qualities. It is true that an array of working-men's clubs, tenants' associations, co-operative guilds, sports organisations and horticultural societies were set up by local enthusiasts, sometimes with help from outside at the inaugural meetings, but, rightly or wrongly, one gets the impression that a great deal of the planning, and not a little of the directing and motive power, for the more important organisations were supplied by external agencies, although the keen support of the tenants themselves has been indispensable for the smooth and continuous running of the machinery.

As in a less advanced age of general culture the people were accustomed to turn for guidance to the clergyman and the schoolmaster, so in this large area, where the resources of civilisation had to be hustled into existence, it is encouraging to learn of the whole-hearted and unwearied efforts made by Church ministers and school teachers to promote the well-being of the parishioners and children under their charge. Many of them appear to have put their time and their buildings at the free disposal of those who needed them for some good purpose whenever it was possible to do so. Reference is made to a vicar who offered his Church Hall to the Ilford Council as a school-room because accommodation was lacking and the children were running wild. The offer was gratefully accepted and the same vicar a little later refused help to erect a permanent church, preferring instead to devote his resources to the building of a large Parochial Hall which would provide school accommodation for many more children.

The example just quoted is one of a vital service which occasionally suffered, not because of any failure on the part of those concerned to do all they could to meet the emergency, but because the authority that undertook the building of houses was not directly concerned with the provision of other social needs. This is the main lesson to be learnt from the survey: it is essential that there should be strict co-ordination between the several authorities responsible for all communal services—for health and transport,

education and amenities in addition to the obvious requirements of water, light and sewage disposal—when such a large-scale transference of families is contemplated

This raises a wider question. With so little *joint* planning it is perhaps a matter for surprise that we “muddle through” as well as we do. The reviewer has long held the opinion that the time has come for considering the possibility of carrying out periodical surveys of the whole country, upon a regional basis, to assess the needs—not in housing merely—of each area and to ascertain how far these needs are being met by the available private and public, voluntary and official, services. Meanwhile it is left to chance authorities, and sometimes to self-constituted groups possessing the will and the means, to initiate more or less successful inquiries quite independently of each other. The present survey is definitely in the successful class. It contains much interesting matter both for and against proposals to continue planting colonies of small houses in an alien soil. But, generally speaking, the potential value of all such studies would be vastly increased if an expert body could be set up to direct investigation, preferably in consultation with Government Departments, into the most useful channels, to encourage the adoption of similar standards and definitions so that the results from different areas might be comparable, and to see that the information thus acquired is followed up by practical action wherever possible.

D CARADOG JONES

The University of Liverpool

Work and Wealth in a Modern Port An Economic Survey of Southampton. By P. FORD (George Allen and Unwin Pp 217 10s 6d)

DR FORD'S book is an important offshoot of the Southampton Civic Survey, first planned in 1927-8, which included a study of 21,000 families,¹ a random sample household inquiry, and a vast amount of additional statistical work, all carried out between 1928 and 1932. It was in many ways unfortunate that a tremendous trade depression occurred in the middle of the inquiry, but the author persevered with his task, and is to be congratulated upon the results obtained.

Among the factors which have attracted industries to Southampton are geographical position, favourable tides, and relatively low wages, but the town is still more of a “gate” than a work-

¹ Southampton's population in 1931 was 176,000

shop Unlike ports such as Liverpool or Newcastle, it has no densely populated, highly industrialised areas in its immediate hinterland, Greater London, with its growing factory districts, is nearly eighty miles away by road or rail Dr Ford's study emphasises the high degree to which the prosperity of Southampton's population depends upon the seasonal and casual trades of seafaring, shipbuilding and repairing, and dock work Ports like Hull, Bristol and Cardiff have many more strings to their bows At Southampton men and women alike are "concentrated in a very narrow range of employments."

In dock work Dr Ford finds that the average weekly wage of the 1,500 tally holders, including both "preference" and "non-preference" men, in a typical pre-depression year (1927) was £2 13s 7d, but the range of variation was between averages of £3 1s 6d. and £2 8s. 7d The corresponding averages for preference men only are £3 9s 2d, £3 16s and £3 4s 3d The earnings of the non-preference or "shed call" men, upon whom the incidence of unemployment falls most heavily, are much lower, and are considerably supplemented from the unemployment insurance fund by virtue of the "continuity rule," designed to ensure that persons such as dock workers shall not be deprived of benefits merely because, by the nature of the industry and methods of engagement, days of unemployment become scattered irregularly between days of employment A small sample of nine cases of shed call men, taken in 1928, gives average wages for the year, £78 9s 3d, average days of benefit, 151, average amount of unemployment pay drawn (a) if single, £21 7s, (b) if married, with two children, £37 13s 4d Thus on the evidence of this small sample the total annual income of an unmarried man was in the region of £100, while the married man with two children received approximately £116 per annum in both cases part of the total (nearly one-half in the case of the married man) is distributed "according to needs"

More than half of Dr Ford's book is devoted to a careful statistical inquiry into the facts and consequences of *lack* of work and wealth (including an excellent chapter on housing) A point of great difficulty in trying to deal realistically with the extent and incidence of poverty is that there are in many families wage-earners other than the family head, and one cannot assume that all the family income and expenses are pooled, or that all are not pooled For example, "close investigation reveals a great variety of arrangements between children and parents, for some make an allowance [to the family income], but provide their own

clothing, while others make an allowance out of which the mother provides all or some part of the clothing. No one has found a means of discovering the full truth of these matters" (p. 136). Supplementary earners may help to raise a poor family above, or thrust it below, the poverty line. Some of them may be, on balance, net liabilities instead of net assets, others, having been net assets, may suddenly depart to get married or work elsewhere. Dr. Ford's principal conclusions regarding poverty in Southampton are (a) in 1931, 21 per cent of the families in a random sample of working-class households were below a defined poverty line, (b) in 34 per cent of the working-class families with dependent children the family head had insufficient income to maintain his wife and children of school age at this poverty line, without help from supplementary earners, (c) unemployment is the chief cause of poverty, (d) death, illness, advanced age, or absence of the natural family head, or the large number of the dependent members of the family are also important causes of poverty, (e) 47 per cent of the families were receiving social service income in one form or another (*i.e.*, unemployment or N.H.I. "benefit," old-age, widows' and war pensions, public assistance, and school maintenance grants), and 25 per cent of them received more than half of their income from this source.

Throughout the book one is impressed by the author's attempts to measure his phenomena and to attain precision wherever the material will allow. It is a welcome addition to the growing number of similar local economic studies, especially as Dr. Ford is at great pains to make his results comparable.

ALFRED PLUMMER

*Ruskin College,
Oxford*

The Shipping World, Afloat and Ashore. Edited by J. A. TODD
(London: Pitman, 1934. Pp. xiii + 308. 7s. 6d.)

THIS book contains a series of chapters written by specialists on particular aspects of the problem of shipping. The first section deals with ships and their construction, the second with operation of shipping, the third with traffic, the fourth with organisation and the last with ports. The individual chapters, as is usual in such compilations, vary greatly in quality. Several suffer from an over-elaboration of somewhat unimportant detail, combined in certain cases with a rather superficial treatment of the more important points.

To the economist the most interesting chapters will probably
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be those by Mr A B Hughes, of T and J Brocklebank, Ltd, on Trade Routes, and by Mr J H Batty of Pollexfen & Co, Ltd, on the Shipbroker. The former discusses subjects as varied and interesting as the rival merits of tramp and liner, the deferred rebate system, and the Shipping Conference, none unfortunately in quite the detail one would have liked. The latter deals with the types and conditions of charters, and of the problems which arise from them. Curiously it is no one's task to discuss the difficulties arising from surplus tonnage.

The Rationalisation Movement in German Industry By R A BRADY (University of California Press Pp 466 22s 6d)

THIS is a scholarly contribution to the problems of organisation, which combines great research into the economic changes of recent years with an endeavour to interpret the social changes to which they are related. This background of interpretation, in which much room is given to the human and cultural factors, distinguishes Mr Brady's book from those studies of Rationalisation which regard it as an economic technique. The author seeks to outline a future for industry, for which the achievements of Rationalisation provide only a preparatory basis, and in which far larger and more far-sighted planning will create the cultural conditions of a controlled economy. These depend mainly, as I understand him, on the stabilising of economic life by much greater efforts than the State has yet made anywhere. He holds that the results of what is called the Rationalisation movement in Germany have been disappointing, and that the heyday of its technical achievement is almost past. The purpose and outlook have been too limited, the evolution of capitalist economy is not to be the last word of the process, political philosophy must supply the final criterion of the value, and the final decisions on the range, of the associative movement in industry.

The Second Part of this scheme is, nevertheless, a most valuable storehouse of facts, up to the present date, for the post-war history of particular industries in Germany. Mr Brady traces fully and carefully the pressures which were bearing on German production—taxes, costs, reparations, and the loss of markets—and shows how the meaning of Rationalisation has changed from a period of Rationing, via a period of "cleaning up" (*Sanierung*), into a period of more positive and futuristic reorganisation. But a yet further meaning for the formula is to be found in its broader social implications.

His account of particular industries illustrates his general conclusions. Little has so far been done for stability, in some ways, the position has been made worse. The movement is directed to too particularist ends. But a basis is being prepared for something better. No return to *laissez faire* is now possible, group interests are being increased in importance, we must go on, and cannot go back. The danger of a "mass culture"—such as results from the urbanising tendency of Rationalisation—can be avoided by greater attention to human factors and variations and powers of decentralisation of responsibility.

There is a valuable Appendix giving, in addition to industrial and other statistics, a full account of the structure and functions of the more important German central Rationalisation bodies.

D. H. MACGREGOR

*All Souls College,
Oxford*

Planning the Modern State By F. A. BLAND, M.A., LL.B.
(Sydney Angus and Robertson 1934 Pp. xi + 230
4s. 6d.)

It is fashionable to advocate national and even international planning, though few who do so realise the vast changes this involves, especially in the economic sphere. Mr Bland does not deal with economic planning except in public utilities. Perhaps this is because, as a lecturer in the University of Sydney, his subject is Public Administration, but, at any rate, it is important to realise that effective change of the economic life of a people presupposes a replanning of the political and administrative system. The present book comprises a course of extension lectures delivered in Sydney in 1933, explaining recent trends of opinion on problems of government. It is a popular treatise on political science and the theory of administration, taking account of recent movements. Whether it be called Fascism or not, a new despotism is arising in democratic countries through the inability of parliaments to cope with rapid change. This requires a reconstruction of the whole representative frame-work. The chapters which will interest economists most are those on the Changing Content of Government, the Government as Entrepreneur, and on Local Government. The book is written with special reference to Australian institutions, with frequent illustration from English and American experiences and proposals.

H. S. JEVONS

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The New Unemployment Act By R C DAVISON. (London Longmans, Green & Co, Ltd 1934 Pp 32 9d)

A USEFUL little pamphlet which gives in small space the main features of the new Act. The first introductory chapter deals with the insurance benefits and gives in detail the rates of contribution and of benefit, and the conditions in which benefit will in future be drawn. The second chapter deals with the scheme of unemployment assistance for those outside the insurance benefits. It describes the methods of assessment of need and the deductions for the various sources of income of the unemployed family, and gives some account of the administrative organisation of this part of the scheme. The last chapter discusses the opportunities for training afforded by government training and instructional centres and by various camps and courses. A final note gives the public expenditure on unemployment for the year 1933-4.

Elements of a National Mineral Policy (New York The Mineral Inquiry of the American Institute of Mining and Metallurgical Engineers, 29 West 39th Street 1933 Pp 162 \$1 25)

THIS book is the outcome of a conference organised by the Mineral Inquiry, a group studying minerals in their public relations. It contains some twenty chapters, each by a different member of the group. Some of these are exceedingly brief and several are concerned rather with general issues than with the specific problems of the mineral industries. The best thing in the book is a chapter by Mr Skelton on Competition or Control in the Base Metal Industry.

The Iron and Steel Industry of Germany, France, Belgium, Luxembourg and the Saar By F BENHAM (London The London and Cambridge Economic Service, The London School of Economics, Houghton Street, Aldwych, WC 2 1934 Pp 51 5s)

THIS is one of the Special Memoranda of the London and Cambridge Economic Service, which for financial reasons it has not proved possible to distribute *gratis* to members of the Royal Economic Society. It brings together a considerable body of information regarding the iron and steel industries of these countries, which is nowhere else so conveniently accessible.

An introductory section examines the general problem in terms of the nature of the product, the markets, and the comparative costs in the different countries, and considers briefly the effects of cartels and of depression. The succeeding sections analyse in greater detail the output, raw material supplies, labour costs, technical equipment, and home and export markets of each country in turn.

The House of Mitsui A Record of Three Centuries Past History and Present Enterprises (Tokyo, Mitsui Gomei Kaisha 1933 Pp 74)

THIS fascinating little book traces the history of the great commercial house of Mitsui from its first beginnings to its present dominance over the modern industrial Japan, with its cotton and rayon mills, its steel and engineering works, its mines and shipping lines, its banking, insurance and trust companies.

The patriarch of the firm was Mitsui Hachirobei, who in 1673 came from the provinces to Kyoto to establish a store. His great innovation was summed up in the trade mark of his firm "Cash Payments and Single Price" (to all customers). The firm quickly reaped the large profits of the consequent turn-over, and Hachirobei was able to branch out into banking and other activities. He introduced a system of drafts which at the same time enabled himself and his fellow merchants to transmit funds to Osaka, and the Government of the day to make its payments in the provinces.

When Hachirobei died in 1694 the firm was already strongly established. Two centuries later, when Japan began to build the new world of commerce and industry, the House of Mitsui was the corner stone of the edifice. From that moment we see it steadily growing. We begin with Hachirobei himself in Yedo, his banking office a house typical of the Japan of the period. By the eighteen-seventies the first modern Mitsui building, though still Japanese in character, bears indications of the influence of Scott and Waterhouse. By 1933 the firm is established in a fine Neo-Classical building. From here it directs a sixth of the world's silk production, a fifth of Japan's cotton exports, as well as countless other activities. But the tradition of the family has not been forgotten, and the firm has led the way in Japan in relief and welfare work, and in social and charitable enterprises of all kinds.

NOTES AND MEMORANDA

Thomas Robert Malthus ob 29 December, 1834

DANIEL AND ROBERT MALTHUS A DIALOGUE

THIS supposed conversation may bring home to the benevolent reader the conversation which actually took place between father and son at Albury in the county of Surrey in 1797

It is just a hundred years since the son died, at Bath, on 29th December, 1834 In the Preface of his first published writing, the anonymous *Essay on the Principle of Population*, we read "The following essay owes its origin to a conversation with a friend on the subject of Mr Godwin's Essay on avarice and profusion, in his *Enquirer* [1797]" The date of this Preface of Malthus is June 7th, 1798 In Otter's Memoir (in the second or posthumous edition of Malthus's *Political Economy*, 1836) the Bishop says he had it from Robert Malthus himself that the "friend" was his own father, Daniel Malthus (pp xxxviii, xxxix)

The "conversation" between Robert and Daniel Malthus may have been on this wise —

D Too bad a day, Bob, for either riding or walking Stay indoors with me a little, I want your opinion on Godwin's *Enquirer* Nobody could agree with Godwin in everything, but an old reformer like me can agree with much of it, perhaps more than you can bring yourself to do after reading what he says of the clergy

R Yes, Sir, if all in Orders were really as he describes them in his essay on Trades and Professions,¹ you would hardly have consented to my Orders, would you ?

D Your profession fares worse in his hands than under my friend Friend, who kept after all chiefly to generalities²

R Godwin says in his Preface that, unlike the *Political Justice*, the *Enquirer* consists of detached essays, "each intended in a considerable degree to stand by itself" (Preface, vii) Very good, I detach this one on Trades and Professions (Part II, v)

D I am not surprised, for his language about the clergy transgresses even the bounds of your tutor, Gilbert Wakefield, and his were wider than Friend's³ But you must find this a delicate

¹ *Enquirer*, 1797, p 228

² *Peace and Order*, 1793, 1st ed., pp 35-42

Wakefield, *Life*, 1792, *eg* pp 148, 193

subject Take instead the essay on Beggars, Part Two, Essay Three,—or, no, take the essay before it, Number Two, on Avarice and Profusion, a fit text for all times, on the two rival frailties of our upper classes, matching mendicity and robbery in the lower

R Which passage of Number Two shall I take, Sir ?

D Just take a passage at random, you dons would say *ad aperturam* You are the younger man Read it to me Like your Master, Dr Beadon, I can follow you perfectly well, when you for your part read with care and I for my part listen closely with both ears

R Well, Sir, I take page 169 “Inequality being to a certain extent unavoidable” He goes on to say that the inequalities should be “kept down within as narrow limits as possible,” and then asks whether “the conduct of the avaricious man” or the conduct of the “man of profusion” is the better with that purpose in view

D I remember, for I have gone over the book myself in a cursory manner Godwin decides in favour of the avaricious man But try another passage That one does not appeal very strongly to me, for I hope I am neither a miser nor a spendthrift

R Very well, Sir, I pass to page 174 “It happened then, as it must always happen, that the lower orders of the community could not be entirely starved out of the world” It was to the interest of the higher orders that the others should be kept alive, and he thinks that a bare living can always be secured at small expense of labour and time, the commodities essential to subsistence “demanding from us only a slender portion of industry” “If these only were produced, the species of man would be continued If the labour necessarily required to produce them were equitably divided among the poor” or (as he adds) better still amongst all, “each man’s labour would be light and his portion of leisure would be ample” He could have time to improve his mind or give himself harmless luxuries

D You are curtailing and paraphrasing now, but I forgive you He is often prolix and tedious

R He goes on at the foot of page 175 “It was perhaps necessary that a period of monopoly and oppression should subsist before a period of cultivated equality could subsist” “But surely after the savage state has ceased and men have set out in the glorious career of discovery and invention, monopoly and oppression cannot be necessary to prevent them from returning to a state of barbarism”

D Now you are coming to his best passage

R I knew you would think that, Sir, I do not quite agree But here is the passage "Thus much is certain, that a state of cultivated equality is that state which, in speculation and theory, appears most consonant to the nature of man and most conducive to the extensive diffusion of felicity" (p 176)

D Surely that appeals to both of us I at least have always looked forward to the time when all men should be happy and well fed and well educated Like Godwin, I have read my Rousseau to some purpose

R The sentence, Sir, expresses what we all desire, but you notice that he mentions certain conditions of fulfilment I have been wondering whether they could ever be fulfilled by all men everywhere without a revolution in human nature I should like to see any signs of such a revolution, it would mean a complete conquest of instinct and passion by reason In how many men do we see that now?

D To what "conditions" are you referring?

R He says all must work, but adds that, if content with mere necessities and the poorest kind of life, they need only work "if they knew it a short part of the day instead of the live-long day as at present" (p 175) Tell me, is it always and everywhere so very easy to get food as he supposes? Would not the easiness or the trouble of getting it depend on the soil? It would make a difference too whether many or few were trying to live on the same soil, many all together or only a few by themselves

D You mean that a small body of cultivators might on a given area find enough to keep life in them but a larger number could not

R Yes, there might be enough for an able-bodied man or a small group of able-bodied men, but not enough, unless they put more work into it, if they had dependants, say women and children It seems to me, as I wrote in the "Crisis," that there is no means of happiness so attractive to the ordinary man as a Home, yet as long as humanity remains what it has been from the days of Adam, this cannot be secured by human beings without causing an increase in their numbers and a harder labour all round

D "Double, double toil and trouble" How on earth does this bear on the ultimate perfection of the race of man?

R In this way, that where there are men and women there will be multiplication resulting from their union, and the result will be an increased toil to procure supplies What happens to normal animals will happen to normal human beings

D What is it that happens to the normal animals?

R What prevents them from covering all the earth?
Answer this and you answer your own question

D I answer, they cannot all find food and they die off, or else they kill each other. Whole broods are gone from the earth, in one of these ways or the other. The very plants show the same phenomenon, as I have observed in my botanising again and again

R Just so, and I should like to know what prevents all *men* from covering the earth or even from being tightly packed on one island like ours?

D My dear Bob, as the first born of the creatures, man has in him the light of Reason, not only Passions and Instincts

R Please go on. What does reason lead him to do in this case? Is it never deflected by the passions and instincts?

D Be it you yourself to give the answer, from your very clever criticism of Paley in your "Crisis." Says Paley: The presence of a large population is a proof of present happiness. No, say you, a *growing* population does that at the time of its growing, but an actually present large population may be only the sign of a happiness that is past. That stuck to me and gave me an even higher opinion of you than I had before

R Yes, Sir, in that "past" there might have been food enough, and, other things being equal, there would have been Paley's "happiness" till the growth of his large population was an accomplished fact. But then—what then?—Give me time to draw out my thoughts on paper for you. They are not yet quite clear in my own head.¹

D My dear Bob, you rouse my curiosity. What are those ideas you have not yet cleared up in your own head—the unknown factors in the situation you describe?

R The subject, Sir, as you very well know, is not a new one, authors have written on Population, and even noticed that it might create a bar to universal happiness. But nobody seems to have tried to show in detail by what instruments or agencies the growing numbers and their necessary food are made to correspond. We know they must correspond, or the numbers in excess of the food would not go on existing. Most men cannot "live on air, promise-crammed" like Hamlet. Even the Ascetics seldom claim the power to turn stones into bread. But they need the bread

¹ "The Author at first sat down with an intention of merely stating his thoughts to his friend, upon paper, in a clearer manner than he thought he could do in conversation. But as the subject opened upon him some ideas occurred," etc. Pref. to First Essay, p. 1

D You mean—what brings the numbers to the level of the food? Some might escape starvation by celibacy I can't see how a whole people could be expected to remain unmarried for whatever purpose There have been ascetics, rare exceptions, who professed to be happy unmarried, and that too without feeling any invincible temptation to evil-doing Fancy a whole multitude of people stemming the growth of their own numbers by an act of will, pure reason, without any evil-doing!

R I agree they will not, and I think it proves that there will always be a flood of numbers advancing against your Perfect State In the matter of instinct and passion, humanity, to my mind, is not perfectible, and never will be

D Perfectibility *versus* Population! Reconcile the two for me and you will be my Great Apollo

R I make no promises, Sir It is a hard problem

D Think it over, not once or twice By all means write it down for me your solution, or else your argument that there can be none

R You are overrating my powers Remember what happened to my "Crisis"

D You will do better this time, Bob You seem at home in such subjects I don't wonder that they are more to your mind, though they are not much more to mine, than the ins and outs of Government, "what the Pitt intends and what the Fox" So pray go on

R I am quite willing to try, Sir, I am really anxious to know on which side the truth lies

D Good boy I look forward with great expectations to your *Essay on Population* The manuscript shall be printed this time, by hook or by crook, Debreton and his like notwithstanding Take your own time, but do not let your modesty make it a long time This "crisis" affects the whole world of men, not the one nation of England like your "Crisis"

R "Crisis" indeed In the words of your Shakespeare, "I have forgot that name and that name's woe," having a bigger thing to think of in my *Essay on Population* Shall we give it that name?

D Yes, but connect it with the Future Improvement of Society Titles ought not to make books differ from books with the Public, any more than men from men in Society, yet we know they matter in both, as the world goes now We must bow to custom without much respecting it in either case

R You shall be obeyed, Sir, to the letter!

JAMES BONAR

THE PROBLEM OF MANAGEMENT AND THE SIZE OF FIRMS

A Reply

1 IN the June issue of the *ECONOMIC JOURNAL* Mr E A G Robinson has criticised the belief in the efficiency of large-scale production put forward in my *Logic of Industrial Organisation*. His case rests on the difficulty of co-ordinating a large organisation, and he is right in singling out this factor. This reply is, accordingly, written in the hope that we may arrive at a substantial measure of agreement.

Before agreement can be reached, however, we must stop arguing at cross-purposes. At present we are not using words in the same sense, and I must begin by repeating the distinctions made at the outset in my *Logic*, which Mr Robinson has to some extent ignored. I used the phrase large-scale *production* to refer to the large-scale production of any *one commodity* (or service), the phrase large-scale *organisation* to refer to large-scale *firms* or *plants*, and the phrase large-scale *operation* to refer to large-scale production of any one commodity (or service) *within* one firm or plant. These words may be ill-chosen and confusing, but I would beg economists somehow or other to get the different classes of fact referred to separated out in their minds, for such separation is essential to a realistic grasp of industrial organisation. Since single letters rather than whole words are now in fashion—and certainly help to stress the fact that something in particular is being talked about—I suggest *P* for the scale of production of any one commodity, *O* for the scale organisation, and *OP* for their combination in the scale of production of any one commodity within any one organisation.

Now the belief I put forward was not a belief in the efficiency of large organisations (*O*) for their own sakes, but, to repeat the very passage quoted by Mr Robinson, a belief in the efficiency of “large-scale production, especially when conducted in large-scale firms and plants.” It is a belief, in short, in the efficiency of a large *P* or *OP*.

The arguments with which I supported this belief were based on the economy of bulk transactions, of massed reserves, and of exactly balancing the output of a multitude of indivisible specialists and specialised equipments. These economies are in general less easy to attain where in any given size of organisation there is variety either of materials, products, processes, or services (*ie* converging, diverging, vertical or diagonal integration).

Admittedly where large-scale production of any one com-

modity or service (P) is possible, large-scale operation (OP) is likely to imply large-scale organisation (O), but we must beware of thinking only in terms of plants to the exclusion of firms or combinations of firms. When, for instance, Mr. Robinson expects "firms to locate themselves in such a way that transport costs were at a minimum," I presume he is thinking of plants. Now my belief is not necessarily restricted to the efficiency of large-scale production within a single plant, but extends to the efficiency of large-scale production within a firm, including under firm industrial combinations. The O in OP refers to a factual administrative unit of organisation, not a localised set of buildings or a legal conception of the limits of a firm.

2 Using this box of somewhat sharper-edged tools, Mr. Robinson and I can approach nearer to an agreement. On the one hand, I admit, by definition, that some organisations may be at maximum possible efficiency though relatively small, because the total aggregate production of the commodity is small. A firm making *all* the Shredded Wheat or Mars Bars that are demanded can only enlarge by making something else besides, and this would not be increasing its scale of operation (OP), and therefore in my view not necessarily increasing its efficiency. On the other hand, since Mr. Robinson has pointed out that the extent to which co-ordination will be necessary will depend on the number and type of decisions to be made and on the knowledge necessary to make them, he will agree that co-ordination becomes easier when, with any given size of organisation, fewer kinds of commodities are produced. There is no longer required the troublesome co-ordination between departments producing different articles with different techniques for different markets or with different materials. The head manager has no longer got to know something about so many branches and ramifications of the business or to make so many decisions per unit of production. We should, in short, both agree as to the advantages of disintegration.

If Mr. Robinson and I can make our theory agree to this extent, we can probably also agree as to the statistics necessary to check up on theory. The figures of size of firms quoted in Mr. Robinson's article from the 1930 Census of Production are not necessarily "in conflict with theory as represented by Professor Florence's logical organisation," as Mr. Robinson supposed, for the reason that these figures deal primarily with scale of organisation (O), not scales of operation (OP), and, moreover, while indecisive as to whether the organisation concerned is the plant

or the firm, certainly do not give the size of combinations. The statistics my theory actually require are the number of men engaged in any one branch of production (not a whole industry that includes many branches) who are employed in each unit of *administrative control* (not just a technical plant or legal firm). The census of any one year will in any case not be very significant, but by comparing censuses of different years *that stick to the same classification of branches of production*, a general trend in sizes of operation might be established, which could be interpreted as a trend towards greater efficiency.

The figures at present available in censuses of production are at least *twice removed* from my theory. They might show size of plants or firms decreasing when in fact plants and firms were being combined, and they might show sizes decreasing because *within* the categories of industries that were used for tabulation, specialisation of organisation was taking place. Thus within the category of the clothing industry, organisations (plants, firms or combines) might be gradually specialising on various sorts of garments (overalls, mackintoshes, corsets, undergarments, millinery, artificial flowers, swim-suits, or men and women's apparel respectively), and thus reducing their scale of organisation (*O*), but yet their scale of operation on any one of these lines (*OP*) would be increasing, in accordance with my theory of efficiency. In their censuses of production some countries, notably Austria, France, Italy and the United States, trace the size specifically of *plants*, others, notably Germany, trace the size specifically of *firms*¹. With the exception of rather half-hearted attempts in the United States, no country has tried to measure changes in size of combinations, though there has, of course, been plenty of talk about their growth. A great improvement in the British Census has taken place, but yet more detailed analysis of sorts of industry and sorts of organisation is certainly required.

3 My interpretation of the discrepancy between theoretically optimum size and actual size by no means excludes what Mr Robinson calls the Biological and the Imperfect Competition (and transport and communication cost) Solutions. But it is with the view attributed to me in particular that the small firm exists mainly owing to "avoidable incompetence" that Mr Robinson joins the main issue.

¹ For a useful review of results in some twenty countries and then official definition of the sort of organisation they are measuring, see *International Labour Review*, June 1933.

Certainly there is some incompetence. As well as incompetence in the accepted sense of *managing* a *given set* of transactions inefficiently, there is incompetence in not controlling *changes* in the sorts of transactions engaged in. Thus a manager may fail to increase his scale of operation (*OP*) because he favours integration, and insists on increasing his scale of organisation (*O*) by producing a lot of commodities each on a small scale (*pp*). But mere incompetence and lack of capacity is not in my view the chief factor in illogical organisation.

I stressed in my *Logic of Industrial Organisation* the lack of incentive and the lack of effective selection of managers. A chapter was devoted to the analysis of types of entrepreneurs and administrators, in which I suggested that many English business men, who may be perfectly competent, did not desire to extend their operations, being quite content to enjoy a *given* salary or profit per year. They were not out to maximise incomes but, as reasonable persons, to maximise their own happiness, which would include leisure and power to enjoy it, and would also include enjoyment of independence. Considering the number of old-established hereditary businesses and the displacement of profit by a fixed salary as the incentive to manage joint stock companies, these non-expansive types of will may often be fairly representative of a whole industry. A further chapter was devoted to the selection and education of business administrators. Here I suggested that promising material was lost by the wayside on account of poverty, or of attraction to other careers of greater prestige. All these are *avoidable* causes to which Mr Robinson has not attached enough weight. Operations would be on a much larger scale if those in control were more willing to enlarge and better selected for the purpose. It is not necessary, as Mr Robinson suggests, that there should be an "improvement of the qualities of human beings as we know them," but merely that greater use should be made of available human quality and that new types of incentives be applied.

4 Let us suppose, however, that the most able and willing personnel were in fact selected to manage and control the transaction of plants, firms and combines. The scale of operation (*OP*) will still, I believe, fall short of the optimum scale on account of avoidable defects in the mechanism of organisation.

The last word has certainly not been said on methods of delegating powers to subordinates, and even if it had been said, a long time would elapse before the best methods were actually adopted by the bulk of industrial organisations. The paramount

difficulty, as Mr Robinson rightly points out, is the delegation of the function of co-ordination. Intermediate co-ordinating links can, we agree, be interposed between the general manager and the foreman, and we may agree that at each remove up the scale the higher ranks become more remote from the detail of a problem and from the effects of their particular solution. Yet, proceeds Mr Robinson, in almost every instance "knowledge of the detail of a problem is an essential condition of its solution" and co-ordination can seldom be effectively achieved "without knowledge of the internal effects on the units co-ordinated of the methods of co-ordination adopted."

Here Mr Robinson has created his own difficulty by identifying the necessary co-ordination of subordinates when a change of policy is decided, with the actual making of that decision. In this he follows Mr Kaldor, who makes management consist merely in supervision and co-ordination. He actually goes so far as to attribute the entire increase of 60 per cent in administrative, technical and clerical staff as against the 10 per cent increase in operative workers between 1907 and 1924, to the increased need for co-ordination. Much of this additional staff would not be for purposes of co-ordination at all, but would be due to the substitution of paid managers for entrepreneurs, or due to additional *specialists* in research, planning, or statistical control, such as cost-accounting, or due to supervision of additional machine processes. And in so far as additional co-ordinating staff takes the place of conferences and committees involving highly paid executives, the addition might actually reduce co-ordination costs.

On the whole, this increase in staff is an indication of the increased efficiency obtained by specialised brain-work, and much of this specialisation has consisted in splitting up the functions of management. Mr Robinson and Mr Kaldor appear to deny the possibility of this specialisation. When they speak of co-ordination, which they identify with management generally, as being exercised by a group, they seem exclusively to visualise a body of persons, such as a Board of Directors or Cabinet, meeting at one time and place and jointly responsible for all decisions. But apart from co-ordination in the strict sense, management functions, as analysed by writers on the political science of industry, do not require this collective "mustering."

Fayol,¹ for instance, distinguishes five elements — planning, organisation, command, co-ordination and control, quite apart from mere supervision. Many a firm has a separate control

¹ Industrial and General Administration, International Management Institute

office to see "that everything is being carried out in accordance with the plan that has been adopted and the orders which have been given," and many a firm employs specialist organisers to see that it is provided "with everything useful for its running, with materials, plant, capital and staff" Nor is co-ordination necessarily to be identified with planning and command Mr Robinson and Mr Kaldor both speak of co-ordination and adaptation or adjustment to circumstances as though it were necessarily carried on by the same person If, in adapting policy to a change in demand, A decides upon the plan of curtailing output of one product by 10 per cent, cannot he tell B, or even leave it to B to see, that the necessary co-ordinations be made all along the line, for instance, that less material be bought and fewer men employed? B must, of course, get in touch with the labour manager and the purchasing department to work out the precise amount and sorts of reduction to make, but in all probability A will not need to be troubled further In the army the activities of B are known as staff-work, and undoubtedly the head of a business firm could enormously enlarge his scope if he adopted the general-staff system

The co-ordinating possibilities of a general staff within industrial organisations were clearly brought out in a paper read by Mr L Urwick before the British Association last year He distinguishes these general staff functions sharply from those of the specialist staffs whose functions are advisory rather than executive In confining the "essential purposes of the staff" to provision "for the upward passage" of knowledge Mr Robinson is missing an important device for relieving the man who decides the *degree and methods* of adaptation from the work of co-ordinating the details Of course the economist may assume for his own purposes the absence of a general staff, just as Mr Kaldor argues on the assumption of a *given state* of technical devices such as systems of accounting But this would beg the question as to whether the limits to the size of organisations were really *unavoidable*

Finally, since to co-ordinate is a transitive verb, I would ask those who insist that co-ordination is indivisible to be more explicit as to what powers are thought of as being co-ordinated If the highest administrative, appointing, and constitutional powers in a firm are being referred to, who is the Indivisible Chief Co-ordinator in the ordinary joint stock company large or small? At present there obviously seems to be a division of labour between the promoters, the chief shareholders usually

represented by the Directors, and the General Manager Yet the joint stock company procedure continues to displace the single entrepreneur !

P SARGANT FLORENCE

STABILISATION OF THE FRANC AND FRENCH FOREIGN TRADE—
A COMMENT

IN the September issue of the *ECONOMIC JOURNAL* M Philippe Schwob introduces his note on this subject by attributing to me the view that "the French Stabilisation brought unexpected consequences, quite contrary to classical economics, that is to say, an increase of exports and a decrease of imports" (p 509). And he quotes a passage from my *Art of Central Banking*, in which I said that in the years 1927-8, owing to the scarcity of currency, "people spent less on importable and exportable goods "

That what occurred was "unexpected" or was "quite contrary to classical economics" is entirely M Schwob's view, not mine Moreover, what I wrote was that people spent less on importable and exportable goods "and on external investment" He omits these concluding words, and proceeds to interpret the passage quoted as referring only to *visible* imports and exports It ought to have been obvious, even without the reference to external investment, that invisible imports and exports must be included

Thus M Schwob's note is not really very relevant to what I wrote And on its merits his argument seems to me of doubtful validity It may well be that, when a currency has become very unstable, calculations of the balance of trade from the annual foreign trade returns are unreliable, and that calculations based on the gold value computed month by month are nearer the truth But these latter will still be subject to considerable error, both because some debits and credits will continue to be made in the unstable currency, and also because the date at which a bargain is made and put through the foreign exchange market is likely to be separated by a considerable interval from the month in which the movement of the goods to which the bargain relates is actually recorded in the foreign trade returns

But when it comes to comparing not the currency value or the gold value of the monthly imports and exports, but their "volume" as deduced from a wholesale index number, the result ceases to have any bearing upon the balance of trade or

balance of payments, since these are balances of *pecuniary* obligations. If it has any significance at all it is in relation to the terms of trade, a totally different conception.

R. G. HAWTREY

OBITUARY

E. G. PEAKE

EDWARD GORDON PEAKE was born in 1876 and educated at Oakham and Clare College, Cambridge, where he obtained a first in natural science. He was reading law for the Bar or the I C S when, in 1899, he was invited to become a brewer in Guinness's Brewery. This offer was accepted, and the rest of his life was spent in Dublin in the service of that great firm of brewers. In the fifteen years before the War he was engaged on brewing and malting work, and during this period he showed his inclination towards utilising statistical methods for the solution of practical problems. During the War he served in the Army, became a major in the Royal Engineers, was awarded the O B E, and was mentioned in despatches. On his return he was placed in charge of the manufacture, filling and delivery of casks, and became an expert in connection with traffic management.

In spite of his active and arduous business career, Peake never lost his interest in academic or scientific affairs. He continued his legal studies, was called to the Bar in 1907, and took his LL B. degree in Cambridge. His interest in pure science was demonstrated by a testamentary provision for biochemical research. But his main preoccupation in later years was with financial problems, to which he devoted most of his spare time. In 1923 he published *An Academic Study of some Money Market and Other Statistics*, which was an attempt, on original lines, to estimate coefficients of correlation between different short-money rates, foreign exchange rates and price index-numbers. This work, which was welcomed in the ECONOMIC JOURNAL by Dr. Bowley as "an interesting attempt to test some of the theories of political economy by statistical records," was republished in 1926 in a second edition which contained additional chapters on the prices of commodities and a series of charts showing commodity price movements graphically. He also contributed occasional articles to the *Bankers' Magazine*.

Peake's interest in economics extended to economists, whom he liked to have as friends. He was an intimate acquaintance

of F Y Edgeworth, who spent many of his vacations in Dublin, and was the friend of many Irish economists, statisticians and bankers. Possessed of a singular capacity for social life, and of a most generous and hospitable disposition, he was the means of bringing together in his bachelor establishment many people, both residents in Dublin and visitors from elsewhere, who would not otherwise have met, and he possessed the perfect host's capacity of making each of his guests display himself to the best advantage. Peake's dinner-parties were always sparkling and many of them were memorable, and it is at the head of his table, happy in the radiance of his own hospitality, that his friends will recall him in the retrospect of memory.

GEORGE O'BRIEN

CURRENT TOPICS

NEW arrangements have now been made by which the London and Cambridge Economic Service Memoranda will be sent out to members of the Royal Economic Society at the same time as the JOURNALS, and not at intermediate dates as previously. The London and Cambridge Service have kindly agreed to bring their regular quarterly memoranda somewhat more up to date, so as to include the latest figures which are available at the date when they have to be printed off to accompany the quarterly issues of the JOURNAL. Thus the Memoranda on Current Economic Conditions in this country will in future accompany the March, June, September and December JOURNALS. In order that the annual Memorandum on Economic Conditions in Europe, etc., can go out at the same time as the annual issue of *Economic History*, *Economic History* will be issued in future in February instead of in January as heretofore.

The special memoranda, which are circulated to members from time to time in addition to the above, will be forwarded with the next issue of the JOURNAL published after they are available. A Memorandum on "Investment in Fixed Capital in Great Britain" by Mr. Colin Clark is being circulated together with this issue of the JOURNAL. Special Memoranda, which are not circulated to members of the Royal Economic Society *gratis*, can be purchased by members from the London and Cambridge Economic Service at a price of 5s, as in the case of Mr. Benham's Memorandum on *The Iron and Steel Industry of Germany, France, Belgium, etc.*, reviewed above, p. 716.

The decennial Index of the ECONOMIC JOURNAL for its fourth decade, 1921-30, is also circulated to members with this issue of the JOURNAL and can be purchased by others at a price of 5s. The editors apologise for the delay in the preparation of this Index, which should have been in the hands of members some little time ago

At the end of the current decade the Society will have completed fifty years of its existence. The Council have decided to mark this event by preparing and issuing to members a complete Index covering the whole of the first fifty volumes of the ECONOMIC JOURNAL. This Index will be more elaborate than the decennial Index, since it will include a full subject index in addition to the other classifications which have appeared in the decennial Indexes.

Misprint—In the ECONOMIC JOURNAL, June 1934, p. 349, for "Swaggering State of the Scots Statesmen" read "Staggering State."

THE next Annual Conference of the Association of University Teachers of Economics will be held at Cardiff during the weekend 4th-7th January, 1935, when the programme will include discussions on "The Interpretation of Banking Statistics" (to be opened by Mr F W Paish) and "The Present Position of Monopoly Theory" (to be opened by Mr J R Hicks). Professor Meredith has also promised to contribute a paper, and in addition it is hoped to arrange for a discussion on British Agricultural Marketing Schemes. Full particulars of the Conference should reach members of the Association by the beginning of December. Non-members who are engaged in University teaching of Economics or kindred subjects are invited to apply to the Hon Secretary, Mr Stanley Parris, University College, Cardiff

RECENT PERIODICALS AND NEW BOOKS

Journal of the Royal Statistical Society

- PART III, 1934 *India's Trade and Industrial Statistics Past, Present, and Future* SIR H A F LINDSAY *Methods used in different Countries for estimating National Income* SIR J C STAMP
Centenary of the Royal Statistical Society

Economica

- AUGUST, 1934 *Capital, Time and the Interest Rate* F H KNIGHT
The Expansion of Credit in an Advancing Community R F HARROD
Bricks a Trade Index, 1785-1849 H A SHANNON
The Diagrammatical Representation of Demand Conditions in International Trade A P LERNER

Review of Economic Studies

- JUNE, 1934 *The Concept of Monopoly and the Measurement of Monopoly Power* A P LERNER *The Interpretation of Subjective Value Theory in the Writings of the Austrian Economists* A R SWEETZ
A Contribution to the Theory of Price Fluctuations J B S HALDANE
The Working of the Pre-War Gold Standard C H WALKER
The German Method of Combined Debt Liquidation and Export Stimulation H K HEUSER
The Determinateness of the Utility Function O LANGE
The Concept of Arc Elasticity of Demand R G D ALLEN, A P LERNER
Suggestions for Constructing a Model of a Production Function O L WILLIAMS
- OCTOBER, 1934 *The Glasgow Building Industry* A K CAIRNCROSS
Taxation and Production URSULA K WEBB
A Note on the Elasticity of Supply J R HICKS
Fluctuations in Capital and the Demand for Money S P CHAMBERS
Economic Theory and Socialist Economy A P LERNER
Advertising Costs and Equilibrium H SMITH
Notes on the Determinateness of the Utility Function E H PHELPS BROWN, H BERNARDELLI, O LANGE

Transactions of the Manchester Statistical Society

- SESSION 1930-31 *Recent Changes in the Overseas Trade of the United Kingdom* G W DANIELS
Some Problems of the Manchester Merchant after the Napoleonic Wars A REDFORD
French Monetary Policy R G HAWTREY
The World's Oil Industry, 1920-30 C COOKE
- SESSION 1931-32 *The National Electricity Scheme* W WALKER
"The Citizen's Purse" W H COATES
A Statistical Study of the Economics of Large-scale Production J JEWKES
The Future of the Gold Standard T E GREGORY
The Financing of Industrial Enterprise H CLAY

International Labour Review

- JULY, 1934 *Economic Depression and its Causes* MENTOR BOUNIATIAN *Unemployment Relief in Australia* F A BLAND *Recent Advances in Labour Legislation in Latin America (1928-34)* M POBLETE-TRONCOSO *The Belgian Family Budget Enquiry of 1928-29*
- AUGUST, 1934 *The Problem of the Depressed Areas in Great Britain* E D McCULLUM *Measures to Combat the Depression and Unemployment in Poland* J ROSNER *The Social, Economic and Legal Conditions of Domestic Servants* ERNA MAGNUS *The Working of Social Insurance in Denmark*

The South African Journal of Economics

- SEPTEMBER, 1934 *The Upward Turn* C W PEARSALL *Safety for Savings* E H D ARNDT *Poor Law Legislation* SHEILA VANDER HORST *Demographic Samples in the Study of Backward and Primitive Populations* H SONNABEND *Some Comments on Price and Marketing Control in South African Agriculture* H FRANKEL

Quarterly Journal of Economics

- AUGUST, 1934 *Joint and Overhead Cost and Railway Rate Policy* D H WALLACE *Resale Price Maintenance in Great Britain* E T. GREETHER *The Application of the Pure Theory of Population Change to the Theory of Capital* K E BOULDING *Time Series and the Derivation of Demand and Supply Curves a study of Coffee and Tea, 1850-1930* ELIZABETH GILBOY *British and American Exchange Policies II The American Experience* S E HARRIS

The American Economic Review

- SEPTEMBER, 1934 *Commodity Prices versus General Price Level* C SNYDER *Exchange Rates, Foreign Trade, and Price Level* F D GRAHAM and C R WHITTLESEY *Elasticity of Supply* H J BITTERMAN *Suspension of Gold Standard in Raw Material Exporting Countries* L SMITH *Collective Bargaining in Foundry Industry* R S BAUDER

Journal of Political Economy

- AUGUST, 1934 *General Over-production a study of Say's Law of Markets* H NEISSER *Emergency Employment in Theory and Practice* R A LESTER *The Growth of Trade to 1913* J T PHINNEY *The Insurance of Bank Deposits* J TAGGART and L D JENNINGS *Price Fluctuations and the Gold Supply.* R S TUCKER

The Annals of the American Academy of Political and Social Science

- SEPTEMBER, 1934 *The Shadow of War* an evaluation of current political and economic factors making for and against war, with additional papers presented before the Pacific South-west Academy Edited by L DODSON

Wheat Studies (Stanford, California)

JUNE-JULY, 1934 *Decline and Recovery of Wheat Prices in the 'Nineties* Prior to 1930 the lowest wheat prices recorded in Great Britain were in the crop year 1894-5. The downward price movement of 1891-5 was associated with emergence of a world wheat surplus. This was almost wholly due to Nature, and was not aggravated by governmental measures. Thus price decline was general throughout Europe. Recovery came mainly from reduction of stocks to about normal level by August 1897, with prospects of a short crop. This reduction was due partly to the influence of Nature in cutting production, partly to growth of world consumption. The carry-overs of 1933-4 are roughly twice as large in relation to consumption as the maximum carry-over of the 'nineties.

AUGUST, 1934 *Pacific North-West Wheat Problems and the Export Subsidy*

SEPTEMBER, 1934 *World Wheat Survey and Outlook, September 1934* Severe drought has made the world crop the smallest since 1924. Supplies are nevertheless adequate because of the huge stocks. Wheat prices have already responded to the changed supply, but are still low as compared with pre-depression years. A large reduction of stocks is likely, which will probably halve the present world surplus. The prospective volume of international trade in wheat is about 600 million bushels. Exports will be furnished largely by Canada, Australia and Argentina.

Revue d'Économie Politique

MAY-JUNE, 1934 *Avant-propos* CHARLES RIST *Finances* J. DESSIRIER, etc. *Production* H. LAUFENBURGER, etc. *Commerce et Transports* M. OLIVIER, etc. *Questions Sociales* R. PICARD, etc.

JULY-AUGUST, 1934 *De l'Unité de Valeur* L. WALRAS and H. LAURENT *L'élasticité de la demande* R. ROY *La Crise de la Banque Belge du travail* *Les emprunts des collectivités locales et les récentes interventions de l'État pour les favoriser* P.-B. VIGREUX *La Théorie Quantitative de la monnaie au XVI^e siècle* J.-Y. LE BRANCHU.

Journal des Économistes

JULY, 1934 *Où en est l'Héritage de 1933 à la fin du premier semestre de 1934?* EDOUARD PAYEN *Vers la solution du problème des dettes extérieures* ELEMÉR HANTOS *La Construction Navale* R. J. PIERRE *Revue de l'Académie des Sciences morales et politiques* OLIVIER PICHOT.

Weltwirtschaftliches Archiv

SEPTEMBER, 1934 *Weltwirtschaftliches Archiv* A. PREDOHL The question is discussed whether there will be the same need in the future for the *Weltwirtschaftliches Archiv*, in view of present tendencies towards economic nationalism, and consequent reduction in international trade. Since no State can be completely isolationist, a new world economic system will be evolved, and it will be the task of the paper to survey the changes and estimate the forces leading to its formation. *Arten und Erscheinungs-*

formen von Kosten und Ertragen. A B WOLFE A broad survey of the theory of costs and returns in which the distinction is made between costs at a given time and over a period of time, the costs to the individual and to different firms, and between technological and business costs *Die englischen Währungsexperimente der Nachkriegszeit* O EMMINGER A critical survey of the stabilisation of the £ and its effects The hope that fall in the value of gold would justify the high parity was not fulfilled and the continued rise in gold led to the collapse of the £ in 1931 *Die allgemeinen Lehren des Faschismus und die Korporative Wirtschaft* L GANGEMI Continuation of article on the nature and problems of co-operative economy Its structure, relations with Capitalism, public finance and economic theory, the characteristics and essence of Fascist economic outlook *Das neue Sibirien als panasiatisches Problem* B ISCHBOLDIN The U S S R has been for some time endeavouring to provide economic basis for its Marxist creed, in Soviet Siberia, and is now actively engaged in systematically furthering the economic and political development of Northern Asia by extensive propaganda and friendly commercial relations with Far Eastern Powers The Panasiatic movement is becoming nationalist rather than bolshevist, and the future of Asia depends upon understanding between the Japanese and Anglo-Saxons

Zeitschrift für Nationalökonomie

SEPTEMBER, 1934 *The Moment of Time in the Theory of Value* O MORGENSTERN The individual has to reconcile differing periods of income and of expenditure The author analyses a phenomenon, which he calls "predisposing," which arises from the non-compensation of present expectations of future wants and future income New light is thrown on the approved under-estimation of future wants It is proved that in the case of durable consumer's goods, the temporal succession of acts of choice does not explain their order of importance *The Moment of Uncertainty in the Theory of Value* K Menger Starting from the "Paradox of Petersburg," the author distinguishes between mathematical expectation and the stake that a reasonable man would risk He analyses human behaviour in the face of chance Examining the valuation of uncertainty, he attempts to complete the theory of marginal utility which describes regularities in the valuation of certainty *Functions of Demand for Goods of Correlative Utility* R G D ALLEN The definition of the way in which commodities are related in an individual's scale of preferences is the great weakness of Pareto's theory of value A more logical definition of complementary and competitive commodities is put forward here The case where only two out of the whole set of consumer's commodities have interrelated utilities is then examined The new definition of complementarity proves of service in tracing the effect of price and income changes on the demands of the individual for various commodities In particular, it is found possible to include in the general theory of value the case, noted by Giffen and Marshall, where demand increases with increasing prices *The Economic Theory of Planned Economy* H ZASSENHAUS The author sets out to show that there is a pure theory of a planned economy analogous to the equilibrium theory of an unplanned

economy *Economic Productivity and Economic Total-Utility* O VON MERING The author shows that sometimes the idea of the total utility is indispensable for an exact valuation of economic measures which are not to be justified from the standpoint of their influence on the real income of a nation

Schmollers Jahrbuch

JUNE, 1934 *Preisbildung und Preispolitik unter Berücksichtigung der geographischen Verteilung von Erzeugern und Verbrauchern* E SCHNEIDER Schneider considers the case of an otherwise perfect market where producers and consumers are separated in space from one another The influence of transport costs on prices (not on location) and the stability of the resulting equilibrium is considered The general case of n production centres and m consumption centres is preceded by the special cases when there is only one production centre and/or one consumption centre The paper is to be continued *Volkswirtschaftliches Interesse, Gesamtinteresse und Gemeinwohl* R WILBRANDT *Zur Reform der Wohnungsmiete* G PROST The desirability of abolishing the still remaining rent restriction as soon as possible is commonly accepted But the supply of housing room being still inadequate a reform of tenancy is unavoidable The article gives a detailed account of the points where the present regulations are insufficient *Staat und Kirche in universalen Zusammenhängen* J HASHAGEN *Gemeinwirtschaft und Gemeinschaft* F TONNIES A reply to critical remarks of Ritschl The point concerned is mainly the relative significance of rational and irrational factors to the present social and economic structure

AUGUST, 1934 *Der Begriff der Volkswirtschaft und das System der Volkswirtschaftslehre* R STRELLER Holds that economic theory ought to form the framework to the descriptive branches of economic science, that it ought therefore to deal with causal relationships and that functional static theory is insufficient *Die Begriffsbildung im wirtschaftlichen und sozialen Leben des deutschen Mittelalters* B KUSKE *Die monetäre Beeinflussung des Wirtschaftsablaufes und ihre geldmarkitbedingte Problematik* H H HOHLFELD Because of the highly complicated character of the present credit system the power of banking action to lead industry is rather limited *Die Agrarpolitik Roosevelts* R FREUND *Englands gewerbliche Zukunft* O WISKOTT The failure of English neo-liberalism, the manifest of which is "Britain's Industrial Future," is attributed to the shortcomings of its representatives ("urban intellectualism"), who are very clever in changing tactics but are unable to change their minds

Jahrbucher für Nationalökonomie und Statistik

AUGUST, 1934 "Kapital" und "Warten" H SCHNEIDER The "technical" and the "earning" conceptions of capital are contrasted as fundamentally different The "technical" conception is unworkable *Die Belastung der Bauern in Mitteldeutschland mit Fronndensten und Abgaben im 16-18 Jahrhundert* F LUETGE *Deutsche Industriepolitik, 1933* G MACKENROTH A corporative economy will be the ultimate outcome of the present cartelisation wave

- SEPTEMBER, 1934 *Spontanität als kapitalistisches Geschichtsprinzip* K. MUHS A dynamic theory of capitalism is badly needed to counter-balance the actual preponderance of equilibrium economics. A recent attempt to explain dynamically the origin, working and development of the capitalist system is critically considered *Die Belastung der Bauern in Mitteleuropa im 16-18 Jahrhundert* F. LUETGE *Falsche Deutung Thunenscher Begriffe und die sich daraus ergebenden Konsequenzen für die Rekonstruktion der Lohnformel* W. BRAUER The critics of Thunen's wage formula \sqrt{ap} misunderstand his conceptions and reasoning. In particular they failed to recognise that \sqrt{ap} is the formula for a special case, namely, when it would take the wage-earners one year to establish themselves as possessors of freehold estates. *Zur sozialen Neuordnung in Deutschland* G. ALBRECHT The article gives a survey of the origin, structure and task of the "German Labour Front" and of the contents and significance of the "Law for the Protection of National Labour". Both the Labour Front and the Law are not the result of corporative principles, but of the National-Socialist principles of totality and authority.
- OCTOBER, 1934 *Preise und Produktion* C. CONRAD The thesis of Prof. Hayek that deficiency of capital caused by insufficient saving is at the bottom of the depression is wrong. Hayek confounds an increase in the roundaboutness of the productive process with an increase in the number of stages of production. A change to more productive methods does not necessarily involve an increase in the demand for working capital. The genuine cause of depression is the rigidity of prices and incomes. *Der "Agrarzyklus" und sein Einfluss auf die landwirtschaftliche Preispolitik Deutschlands* L. DRESCHER The object of the German "fixed price policy" for agricultural products should be to secure a stable income to the peasant. The fluctuations in the supply of agricultural products call for a sliding scale of prices. *Sozialpolitik gegen Klassenwahn* A. GUENTHER The article describes the subjugation of social policy to party purposes by the Marxists and its unchaining by National-Socialism in substituting the national and racial ideas for the class idea. *Agrarpolitik im Deutschen Reich* C. V. DIETZE *Wohnungswesen und Wohnungspolitik in Deutschland seit Januar 1933* B. SCHWAN The two outstanding features of recent German housing policy are the change from urban tenement flats to quasi-rural settlements, and the subsidising of repairs and alterations to existing urban houses.

Vierteljahrsschrift für Sozial- und Wirtschaftsgeschichte.

- 1934, HEFT 2 *Ein Weg zum Reich. Die Entstehung des Deutschen Zollvereins* E. FRANZ The diplomatic negotiations preceding the foundation of the Zollverein of 1834 are traced, the merits of the Prussian and Bavarian Governments are stressed. *Das amerikanische System der Nachkriegsära* M. SILBERSCHMIDT Holds that the New Deal is the straight continuation of "Welfare Capitalism" in the prosperity years which was abandoned by Hoover when he got discouraged by the long duration of the depression. The New Deal may well be the final stage of transformation from a political democracy to an "Industrial De-

mocracy" *Zur Entwicklung des Siedlungsrechtes im schleswig-holsteinischen Nordseegebiete* K HAFF

De Economist

- MAY, 1934 *Het probleem der winstdeeling* I H G VIGEVENO The expectations based on profit-sharing have not been realised. At one time it was thought that it would solve the social problem. After a consideration of the place of profit-sharing in relation to the general theory of distribution, the chief arguments for profit-sharing are considered. The system is supported on the grounds of (a) justice, (b) industrial peace, and (c) the stimulus provided. That it corresponds to a demand of social justice is argued by some on theoretical grounds (Gruner is cited and criticised), by others on humanitarian and philanthropic grounds. On the second point, profit-sharing schemes can never guarantee an enduring peace, but at most a temporary compromise. The ultimate problem of wages remains. Moreover, the effect is that the workers are interested, not in raising the general wage, but in the prosperity of the industrial unit to which they are attached. Workers are better served by combining with their fellows than by seeking a community of interest with the economically stronger undertakers, firm by firm. The stimulus idea is also inadequate: the individual contribution to prosperity is too small, the workers may be bound too long to the firm before the share in profits is distributed, profit is dependent on too many other factors. The idea that profit-sharing, consequent on the stimulus which it applies, should "pay itself" is in conflict with the original ideas. *Het Indische fiscaal-economische winstplitsingsprobleem en de laatste ontwerpcorvenie van de fiscale commissie van den Volkenbond* A E C VAN SAARLOS. A comment and a criticism of the League of Nations' "Draft Convention on the allocation of profits," with special reference to the conditions of Holland and Dutch East India in the matter of double taxation. In particular, criticism is directed against the assumption in the report that "permanent establishments" in another country can be treated as, and regarded as, "independent enterprises." An enterprise operates as a whole and makes profit as a whole, and the parts cannot be regarded as operating independently of each other.
- JUNE, 1934 *Het Hypotheekbankbedrijf in crisistijd* J WILKENS. A survey of the position and activities of the Dutch Hypotheekbanken (Mortgage Banks), with comparisons with the situation in other countries. *Het crisisverloop der Oost-Aziatische groot-handelsprijzen en kosten van levensonderhoud* D J HULSHOFF POL. A study of the variations in the cost of living in recent years in Eastern countries, arranged under gold countries (Dutch India and Indo-China), formerly gold countries (Japan and British India) and silver (China). *Het probleem der winstdeeling, II* I H G VIGEVENO. A continuation of the article in the previous number, discussing three further points: (a) Profit-sharing, to justify itself, must not merely increase the workers' earnings at the time of the introduction of the scheme, but must do so permanently. Reasons are adduced for doubting whether it satisfies this condition, the existence of a profit-sharing scheme may provide a reason for refusing an advance in wages later on. (b)

Profit-sharing means that, as between workers doing the same work, there is a difference of remuneration. The cessation of the additional payment may have disadvantageous results. If it is attempted to avoid this by compulsory investment of the share, the immediate stimulus will be diminished. (c) It is a common criticism that profit-sharing schemes do not provide for sharing losses, but this, it is argued, is not logically an element in profit-sharing schemes, which are designed to increase the workers' reward. It would be otherwise in a scheme of copartnership. Methods of application of profit-sharing are considered.

Giornale degli Economisti

- MARCH, 1934 *Parallelo finanziario fra assicurazione privata e assicurazione sociale* F INSOLERA *L'Italia e la regione danubiana* E HANTOS *I problemi del catasto* L FRANCIOSA *Tavola di fecondità dei matrimoni per l'Italia (1930)* G MORTARA *Nuovi dati sulla natalità in Italia* G MORTARA *La economia aziendale* G CARANO-DONVITO
- APRIL, 1934 *Su di un particolare effetto economico della pressione tributaria* C COSCIANI An analysis, mainly on mathematical lines, of the conditions under which the imposition of a tax will increase or diminish the volume of work. *La proprietà ecclesiastica in Italia e il medio ceto rurale nel primo Medio Evo* F CARLI *Per la ripresa dell'esportazione* OECONOMICUS
- MAY, 1934 *Un principio teorico dell'economia corporativa* G U PAPI A plea for the reduction of costs on rational lines as the most appropriate method of emerging from the economic crisis. *Considerazioni critiche intorno ad alcuni coefficienti algebrici di massima espansione creditizia* F DI FENIZIO A criticism of the formulæ devised by Phillips and extended by Angell and Fieck for expressing the maximum possible expansion of credit in the case of a single bank and of the banking system as a whole. The original work of Phillips in this field is commended, but it is contended that the further elaborations of Angell and Fieck have gone too far in seeking to obtain concrete results from the formulæ of Phillips.
- JUNE, 1934 *Declino del capitalismo e significato del corporativismo* A FANFANI *Vecchie e nuove teorie relative alla spesa pubblica* J TIVARONI A summary, in a very compressed form, of the principal theories, held by writers on public finance, of the nature and justification of public expenditure. *Ancora sul rapporto dei sessi nei nati da concepimento antenutriziale* D DE CASTRO Further evidence from a number of states or districts, together with some tentative explanations, of the fact that the records of official statistics show a larger than normal proportion of males to females among children born less than six months after the date of marriage.
- JULY, 1934 *La teoria economica e le corporazioni* B FOÀ The Corporative organisation of the Italian State has an important bearing on economic affairs through its constant endeavour to bring together the diverse interests which are engaged in production. It is not so much a form of State or controlled economy as of an influence or pressure exerted upon processes of production and consumption with a view to increasing the total of human

welfare One aspect of this can be seen in a recent speech by Signor Mussolini, who declared that the economic problem of the Corporative State was "How to give the greatest quantity of labour possible with the least fluctuation to the greatest possible number of Italian workers" The Corporative system seeks to bridge the gap between individual utilities and collective and national utilities *Le base teoriche dell' economia corporativa* F VITO *Il commercio italiano dei fiori freschi* A MORTARA A statistical and general account of the Italian export trade in fresh flowers

- AUGUST, 1934 *La deflazione e l'inflazione negli Stati Uniti d'America* A W MARGET It is concluded that the threat to monetary stability is the real obstacle to a restoration of normal conditions in the American capital market In general, the measures adopted under the National Industrial Recovery Act have been badly devised, and it is only the fact that there has been widespread evasion that has prevented the consequences from being more unfavourable than has actually been the case *Sulla scelta e sul contenuto economico dei sistemi giuridici dell' ammortamento del debito pubblico* E D'ALBERGO The third of three articles, studying from different points of view the problem of the amortisation of the public debt *Nuovi dati sulla natalità in Italia* G MORTARA

La Riforma Sociale

- MARCH-APRIL, 1934 *La corporazione aperta* PROFESSOR L EINAUDI discusses the question whether the corporations set up in Italy are likely to act in an exclusive and anti-social way similar to that of the early guilds or the close corporations against which Turgot protested before the French Revolution He concludes that the modern corporations, being "open," will not use their power to stifle invention, changes of technique or other forms of desirable competitive enterprise *Il problema delle esportazioni* E GIRETTI *La Banca d'Italia nel 1933* M MAZZUCHELLI *Il problema odierno della marina mercantile* M SCHIAVONE A survey of the present problems of merchant shipping with special reference to the position of England *Il salario e l'imposta* A DENI and L EINAUDI *L'imposta di ricchezza mobile e le casse di risparmio* G MERLO *Salvatore Pugliese e Francesco Ruffini* L E
- MAY-JUNE, 1934 *Limiti e metodi nel controllo dei prezzi* V PORRI A brief article on price control contributed to the *Riforma Sociale* shortly before the death of the author *Prime linee di una teoria dei doppioni* L EINAUDI An analysis of the conditions under which an increase in the productive capacity of an industry may be regarded as an undesirable duplication of existing equipment The conclusion is "It appears, therefore, that the conception of duplication can legitimately boast of having acquired rights of citizenship in economic science, but that its value is mainly mythical From this very ground its value is great, since men are governed more by myths than by reason" *Reddito, natalità, mortalità* A BREGLIA *Il bilancio dello stato negli anni della depressione mondiale* F A RÉPAOI *Rivalutazione e svalutazione di "azioni di società commerciali" e imposta di ricchezza mobile* V S MANGANO *Cambi e titoli in valuta* M MAZZUCHELLI

Formazione e limiti del blocco della sterlina F DI FENIZIO A somewhat ironical account of the motives and manoeuvres for the formation of a sterling bloc within the British Empire. The author draws attention to the fact that the constitutions of the Central Banks founded some years ago, such as the new Reichsbank, sought to secure the maximum independence of the banks from the State, whereas the latest Central Banks of India, New Zealand and Canada are closely subjected to the authority of the State. "This is not a sign of scepticism towards practical and theoretical considerations which have been acknowledged for decades—it measures the distrust felt of London by nationalist elements, these prefer to increase in some measure the control of the public authority in order to counterbalance that which they dread more—the control of the Bank of England." *Superamento* L EINAUDI *V Porri* P JANNACCONE, L GIRETTI, L EINAUDI, M DE BERNARDI *Il valore economico del libro del Rostovzev* PROFESSOR L EINAUDI pays a very commendatory but slightly critical tribute to the economic value of Professor Rostovzev's Social and Economic History of the Roman Empire.

La Riforma Sociale

JULY–AUGUST, 1934 *Gold Standard ed autarchia economica* PROFESSOR CABIATI examines the working of the gold standard after the War, with special reference to English conditions and concludes that the pre-war gold standard could not work in the post-war world. *Prezzi in mercato corporativo* A BREGLIA The essence of the Corporative system, as compared with either the individualist or the communist systems, is to be found in the fact that, while maintaining private property and private initiative, it seeks to restrict or suppress privileged incomes (incomes from monopoly or quasi-monopoly and "rents"). *Il New Deal rooseveltiano in che consiste* V RACCA *Contrazione del saggio d'interesse e risparmio* G SACERDOTE-JACHIA

Ekonomisk Tidskrift (Uppsala)

1934, No 3 *Var inkomstskatts fortjänster och brister* DAVID DAVIDSON

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